

Avian flu :  
its public health implications

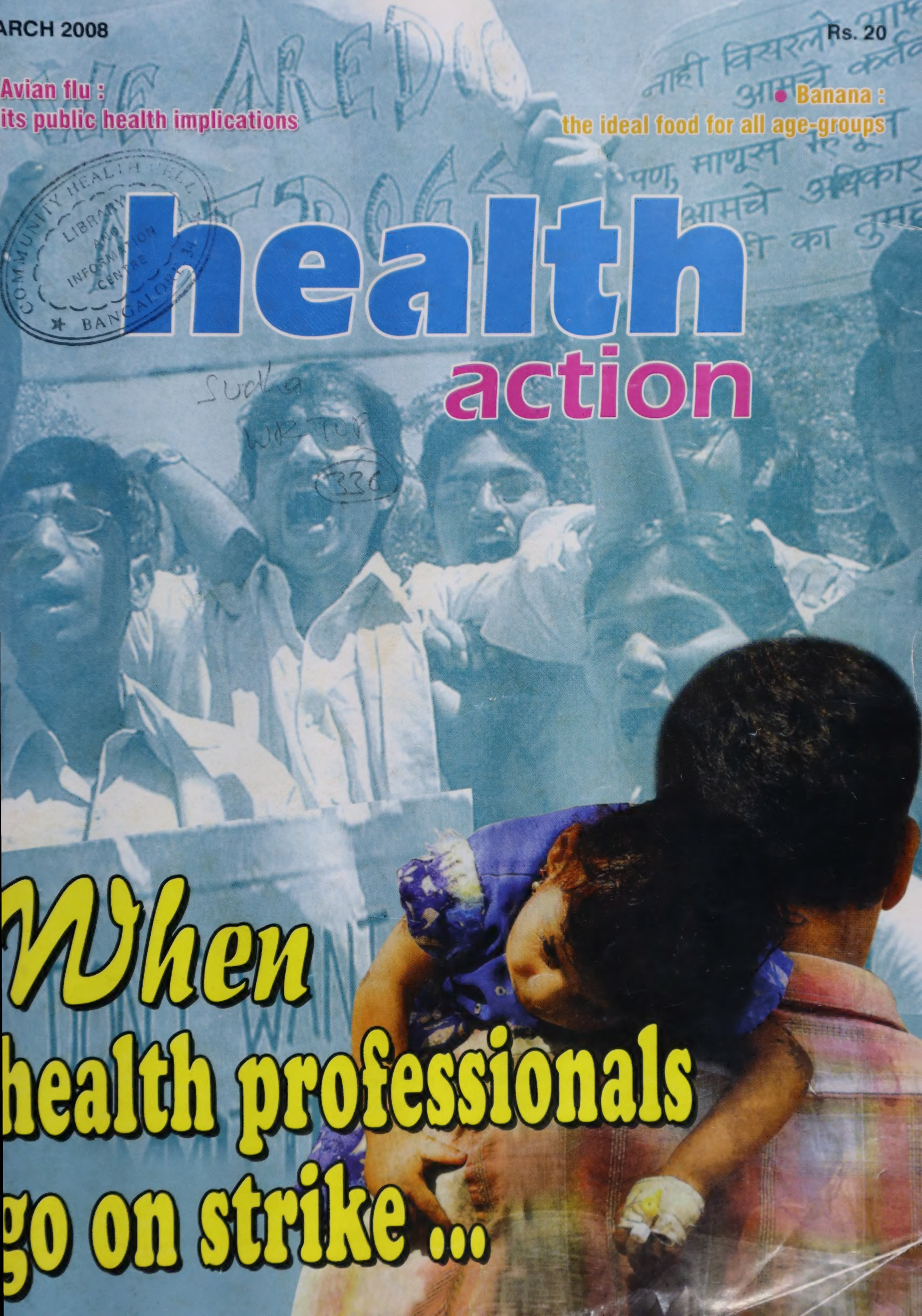
Banana :  
the ideal food for all age-groups



# health action

Sudha  
WR TOP  
(336)

When  
health professionals  
go on strike ...







# health action

A HAFA NATIONAL MONTHLY FROM  
THE HOUSE OF CHAI

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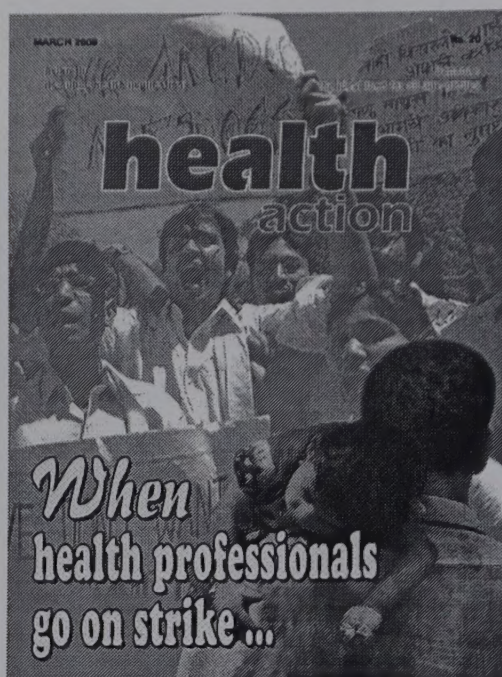
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## Thought for the Month

“It is wrong to think that misfortunes come from the east or from the west; they originate within one's own mind. Therefore, it is foolish to guard against misfortunes from the external world and leave the inner mind uncontrolled.”

The Buddha





## Building our health care system anew is the answer

“There is nothing either good or bad; our thinking makes it so”, wrote Shakespeare a long time ago. There is no rigid good and bad today, except that which we define for ourselves. So also about right and wrong. Good and bad, right and wrong are subjective definitions that often depend on the social climate. Today’s right can be tomorrow’s wrong and vice versa. Between black and white, there are grey areas too in life. The thought is pertinent to the issue of agitations and protests resorted to by health professionals.

Public health care, rather the lack of it, has never been in the news than now. Health care services are frustratingly inefficient and lacking. Not a day dawns without media news of patients dying, especially babies; doctors getting assaulted; and flash strikes by health professionals, especially doctors. These constitute just a symptom of the limping health care system.

It serves little to blame the doctors, nurses and the paramedics if they go on strike. Trying to find if they are right or wrong in their action will be a futile exercise. But, there are various causes for it. A skewed demand-supply ratio of personnel, with hospitals bursting at the seams and a handful of staff to attend to the ever-increasing number of patients is a major cause. The non-conducive work climate and lack of adequate facilities put a lot of pressure on the doctors which affect their work is yet another. We need to look into the underlying tension and structural problems responsible for creating such a situation. No effort should be spared to address the problems faced by health professionals and ensure a conducive and safe work place to help them work better. And unethical protests need to be discouraged.

Problems ailing the system are many. But solution is only one – *building the system anew*. A sensitive and caring government with abundant political will only can do that.

To the question how to make India’s impressive rate of growth, sustainable and inclusive Nobel Laureate Amartyasen answered: “Universal Schooling and Health Care. You are not in the game if you are sick, you are out of the game if you are illiterate”. While the Indian economy is in robust health, the same cannot be said about the country’s workforce. India’s national income was poor by Rs36000 crore in 2005 because of collective assault by heart diseases, stroke and diabetes (*Indian Council for Research and International Economic Relations (ICRIER)*). It is projected to cross Rs 8 lakhs crore over the next ten years.

For every 1000 persons there is one hospital bed, one doctor for nearly 1700 persons. According to NRHM Report, nearly 8% PHCs don’t have a doctor; 39% do not have a pharmacist. We have 22,669 PHCs in the country. According to Planning Commission figures, the country’s 3910 CHCs face acute shortage of medical personnel; 2376 surgeons; 2516 physicians and 2511 paediatricians. TB claims 4,00,000 lives every year. Infant mortality and maternal mortality rates at 54 per 1000 livebirths respectively. Health care is becoming a health scare.

No wonder, just a month ago, a three-member bench of the Supreme Court (SC) observed “the poor face a ‘hostile medical environment’ in being unable to afford good private care while having a public health care system marked by overworked doctors, deficiency in treatment facilities, quantity and quality and corruption, callousness and apathy” (*The New Indian Express*, 26, January 07). The SC judges went on to add “there is a desperate need for making health care easily accessible and affordable.” To achieve it drastic measures, not cosmetic corrections, are needed. Once that happens strikes and other modes of agitation will be a thing of the past.

This issue deals with the theme in detail. The cover story section comprises write-ups by Dr P Sangram, Dr K Amarender Reddy, Dr Jayakumar, Dr Neelam Thakur, Ms Radha Saini and Ms.Sukhdeep Kaur Ghera.

**Rev Dr Sebastian Ousepparampil**  
Managing Editor





# Ensuring safe working climate for health professionals

**Prof (Dr) P Sangram**

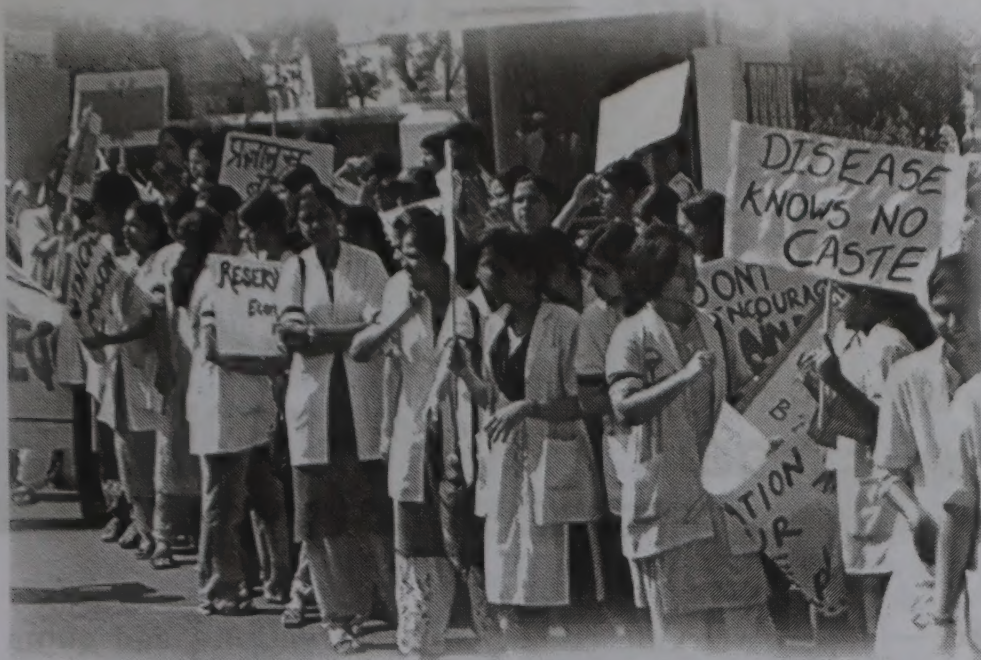
**D**octors and medical students sometimes go on strike all over the country. This is not a new phenomenon. But, since last two years, strikes by health professionals especially doctors, seem to be occurring with more regularity.

In January 2006, junior doctors and medical students of Uttar Pradesh resorted to strike action which turned violent. Something unusual. Reason: a clash between a group of junior doctors from King George's Medical University (KGMU), Lucknow, and a few police recruits on a train. The strike spread to other medical

colleges in the state and lasted a week, and the government eventually had to ban the strike under the Essential Services Maintenance Act. In late February, junior doctors of Mumbai struck work because of multiple events in which patients' relatives and friends rushed into the hospital wards and beat up the junior doctors. The doctors complained of lack of security.

In April 2006, junior doctors in Andhra Pradesh struck work for twelve days demanding that quota for in-service candidates in postgraduate examinations be reduced. In mid-April, junior doctors and medical





Medical professionals have to be concerned more about their own lives before saving someone else's. Regular physical assaults by patients' relatives and their attendants, and politicians have created a virtual scare among the members of medical profession.

students in Delhi protested against the proposal to increase reservations in institutions of higher learning. In mid May, this anti-reservation protest spread across the entire nation and doctors in Bangalore, Ahmedabad, and Kolkata also joined the agitation to protect 'merit' against 'reservation'.

The year 2007 -- the month of December -- saw one of the worst strikes by medical professionals in the state of Andhra Pradesh. About 5000 junior doctors or postgraduate students in 10 teaching hospitals attached to government-run medical colleges, boycotted their duties, virtually paralyzing the health care services in the state. Medical services were badly hit at major hospitals in the state including MGM Hospital, Warangal, Osmania General Hospital, Hyderabad, Gandhi Hospital, Secunderabad, and King-George Hospital, Visakhapatnam.

The strike started when junior doctors working at Niloufer Hospital, Hyderabad, were allegedly attacked by a legislator over alleged negligence in the treatment of a child. They demanded that an attempt to murder case be filed against the involved legislator. They also demanded that he be arrested and disqualified from the assembly. While the government refused to accept the demands, a lower court directed the police to book the legislator and 29 others for attempt to murder.

The strike had its own severe reactions and counter-reactions in the sense that angered over the alleged negligence by a doctor, a patient attacked him at ESI Hospital. The doctor received head injuries. Media reported deaths of 42 children at the Niloufer Children's Hospital during the 11-day strike by junior doctors.

The strike caused extreme inconvenience to patients and at one stage even senior doctors contemplated to join the strike. In Kurnool, a person, who was injured in a road accident, died when he could not get treatment at the government hospital all because of the strike by these doctors.

The attack by legislator and his supporters was not the sole cause of the strike. Relatives of a person standing trial for some crime had roughed up junior doctors of the government maternity hospital, Hyderabad, following a patient's death. Soon after the attack, the junior doctors at the biggest maternity hospital in the state boycotted their duties. They alleged that the involved legislator instigated the relatives of the woman.

Finally, the unprofessional strike by professionals belonging to a noble profession (11-day strike) ended after the high court threatened to take penal action against them.

Now strike is considered a tenet of trade unionism. How could this creep into the community of professionals, particularly those in the medical profession. Strike is an extreme form of agitation. Things can be sorted out through a meaningful and healthy dialogue, mass casual leave etc. Why do medical professionals resort to direct action? An analysis brings out the following reasons:

- Low scales of pay/salary/remuneration
- Poor working conditions
- Quota system in postgraduate courses
- Reservations
- Security in the workplace

Earlier, strikes for the above-mentioned reasons





other than the last one — security in the workplace — were to a certain extent, justifiable but not totally. Today, the workload in government hospitals has increased. Government's allocation of funds for health care has come down significantly which has worsened the situation. Junior doctors are restrained from providing appropriate treatment by not having access to cutting edge technology, and the patients are unable to pay. But the patients have over the years become more assertive. And young junior doctors are not formally equipped with any inter-personal skills.

Junior doctors' grievances like low scales of pay,

In April 2006, junior doctors in Andhra Pradesh struck work for twelve days demanding that quota for in-service candidates in postgraduate examinations be reduced.

In mid-April, the junior doctors and medical students in Delhi protested against the proposal to increase reservations in institutions of higher learning. In mid May, this anti-reservation protest spread across the entire nation and doctors in Bangalore, Ahmedabad, and Kolkata also joined the agitation to protect 'merit' against 'reservation'.

poor working conditions, reservations, and quota system could have been addressed through thoughtful interventions by the government. But, the government, despite giving proper thought to it, used delaying tactics which forced junior doctors to resort to direct action. Besides, the doctors were ill advised by their colleagues, disgruntled and dissident politicians. In this instance, the junior doctors should have had a patient, prolonged meaningful dialogue with the government or could have had recourse to legal action.

Now, the focus is on security in the work place. This really merits attention and redress. Physical assault on any government official, particularly members of the noble profession of healing, without knowing the real reasons is a heinous crime. And the government's nonchalant attitude towards this serious issue is highly deplorable. Medical professionals have to be concerned more about their own lives before saving someone else's. Regular physical assaults by patients' relatives and their attendants and politicians have created a virtual scare among the members of medical profession. They also have altered their psychology so much that their Hippocratic Oath is breached. This may have ultimately resulted in the above-said 11-day old strike.

It is time government took stern steps to control such incidents and ensured physical safety not only to junior doctors but to all members of the medical profession. The medical fraternity should be reassured in relation to their physical safety in the workplace. This would avoid future strikes and industrial actions saving many a precious life. ■

*(Former Director, Institute of Preventive Medicine (IPM), Hyderabad and Medico-Social Consultant)*





# For conducive conditions to deliver quality care

Dr K Amarender Reddy

**P**rofessionals resort to strike for various reasons. Professionals of all sorts go on strike causing hardship to common people in one way or another. Only the magnitude and intensity vary.

An interesting thing to study is how the public, government and the media react to such strikes. There is not much public outcry when teachers strike work since the affected party is always the students. Some parents may protest but not vehemently as they fear that children's studies will be affected. You may find examples of members of other professions striking work but those strikes do not adversely affect common people.

Some strikes cripple normal life. The best example is an all-out strike by public transport employees.

People bear the inconvenience silently while making use of other more expensive modes of travel.

But a total strike by government doctors (since the government is in no way concerned with private doctors who in turn do not strike work as the facilities are much better) immediately attracts pungent reactions from the government, the media and the public alike. Why?

Is it because the strike starts creating a high death-toll from day one? Medical profession deals with the life of people unlike most other vocations. This puts a tremendous responsibility on the health profession, especially doctors to avoid strike at any cost.

That is why a strike by health care professionals attracts such instant outcry and condemnation from all



quarters. So caution should be exercised by all health care people before starting a strike or defending it.

If people are so sensitive to the strike resorted to by doctors than strikes by other professionals, why do they not show the same sensitiveness in addressing their genuine 'requirements' (I would not call them 'demands')?

Instead, the reactions by government, judiciary, media and public are always negative – arrests, cancellation of licenses, invoking of ESMA, shutting down of hostels and attacks by some unruly elements.

Why is it that people who react to strike by health care professionals, especially doctors, in a negative manner do not try to understand the ground realities of medical profession in terms of infrastructure, manpower, technical support, availability of drugs, long work hours in stressful situations, and salaries not commensurate with work?



The issues concerning medical education are not of immediate relevance to patient care in day-to-day practice since undergraduates are not qualified to take responsibility until they graduate. Strike by medical students (both undergraduates and postgraduates) revolve round different issues like number of seats with respect to demand for medical education, adequacy and competence of teaching faculty, proper infrastructure, clinical facilities, duration of study, compulsory rural service, percentage of reservations and many more aspects of lesser import.

Why is it that people who react to strike by health care professionals, especially doctors, in a negative manner do not try to understand the ground realities of medical profession in terms of infrastructure, manpower, technical support, availability of drugs, long work hours in stressful situations, and salaries not commensurate with work?

The issues pointed out above are to be addressed primarily by the government. Blaming the medical professionals for mistakes arising out of such fundamental and unsolved issues will never yield any solution.

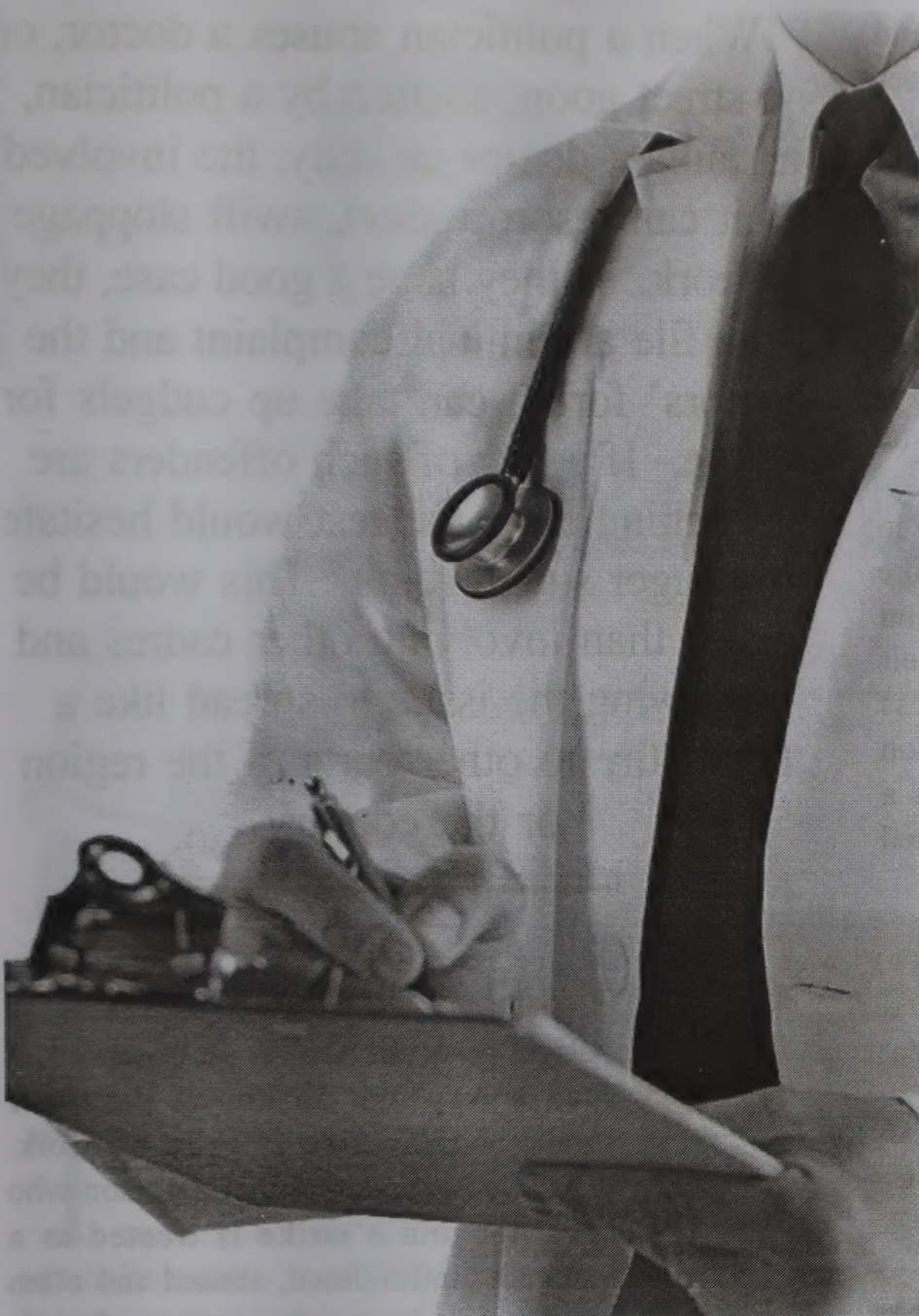
The government, courts, media and the public have every right to blame health professionals for absence of skills, dereliction of duty, improper or rude behaviour, misuse of patients' trust, exploitation of patients' lack of adequate medical knowledge, performing unnecessary procedures, prescribing medicines that would exacerbate patient's condition and more commonly for charging exorbitantly for services offered.

Thus, in conclusion, the sole responsibility of stopping doctors and other health professionals from going on strike rests with the government, courts, media and the public in their sincerity in addressing the critical aspects involving patient care.

Until then they have no option but to go on strike in the interest of delivering quality medical care to the community. The need for strike becomes overwhelming when the conditions become too critical for them to continue patient care and thus putting them at undue risk for reasons beyond control. To continue working in such conditions would affect medical care and the doctors will have to bear the blame for no fault of theirs. That is exactly why they protest. There is no thought of personal gain since health personnel are trained to work for the well-being of patients above everything else. ■

*(The author is Deputy Director, Institute of Preventive Medicine, Narayanguda, Hyderabad 500 029)*





each one exceeding over two months. And the reasons for their striking work – correction of anomalies in pay scales, and formation of a separate state!

In the recent past, there were instances when duty doctors were assaulted by irate patients' attendants; in another case, the director of a prestigious medical institution was politically harassed.

If you go to a bank and find the bank people on strike, how would you react? If one goes to the airport only to learn that the flights are cancelled indefinitely because the Airlines staff are on strike, how does one react? You will be livid with rage. Common people have no sympathy for well-placed, well-paid, well-looked-after professionals who resort to strike disturbing and dislocating daily lives of people.

In the case of the medical profession, doctors who strike work are the ones employed by the state — government doctors. Doctors in private practice and in the employ of corporate hospitals do not and dare not go on strike. The state employs a large number of doctors and these professionals are disseminated throughout the length and breadth of the country. In most

# Strike by health professionals

Dr Jayakumar

**S**trike by health professionals in my opinion cannot be justified as a means to achieve an end. How justified are the ends the professionals strike for is a moot point. In the last three to four decades, there were two prolonged strikes by government doctors in the state of Andhra Pradesh,

instances, they are the only medical personnel available and if a doctor in a remote area of the state puts down his stethoscope protesting against an untoward occurrence that happens in a remote metropolitan town, there seems to be no justification for such an action.



The judiciary get angry, the media turn hostile and the helpless poor who are the ultimate sufferers silently curse the system.

An interesting feature of the strike by state-employed health professionals is that it is a vicious circle. When doctors go on strike, junior doctors and medical students express solidarity and join the fray. When the junior doctors go on strike, the senior doctors express solidarity as a quid pro quo for helping them. Nobody decides the merits of the issue and only exchanges obligations.

Then, what is the solution for medical men who are aggrieved? If they don't go on an all-out strike for a genuine reason, they are taken for granted and ignored. No minister or bureaucrat will listen to their views or take steps to remedy the situation unless they strike work. There seems to be no easy solution to genuinely aggrieved medical men. When a politician abuses a doctor, or a street goon, abetted

When a politician abuses a doctor, or a street goon, abetted by a politician, assaults a doctor on duty, the involved unit can resort a short, swift stoppage of work. If they have a good case, they can file a criminal complaint and the doctors' forum can take up cudgels for them. If a few of such offenders are put behind bars, the rest would hesitate to trigger such events. This would be better than involving other cadres and allowing the issue to spread like a forest fire to other parts of the region or the country.



by a politician, assaults a doctor on duty, the involved unit can resort to a short, swift stoppage of work. If they have a good case, they can file a criminal complaint and the doctors' forum can take up cudgels for them. If a few of such offenders are put behind bars, the rest would hesitate to trigger such events. This would be better than involving other cadres and allowing the issue to spread like a forest fire to other parts of the region or the country. It would be advisable to have an independent body set up to judge the legitimacy of the grievances and suggest punitive action. If the state is the cause of the trouble, no state should be above the recommendation of such a body.

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### Right to strike

Right to strike should be observed in such a way that an honest dissenter should be allowed to go about his work. What we see today is that a person who does not join a strike is treated as a renegade, intimidated, abused and often assaulted. It is an infringement of one's belief in what is right or wrong. Just a vociferous, voluble, and forceful minority of people making decisions for a silent majority of reasonable and decent people! The latter may want to wait, negotiate, or sometimes do more work as they do in Japan or adopt *Gandhigiri* to achieve what they want.

Henry David Thoreau, who is supposed to be the father of civil disobedience, envisaged protest against the State as an argument for individual resistance to civil government. His thoughts on non-violent resistance influenced great people like Martin Luther King Jr and Mahatma Gandhi and the time has come to give a thought to ways of protests resorted to by them than simply go along the path shown by students, political people and intellectual pygmies. ■

*(The author is Dean, Postgraduate Studies, Sri Sai Dental College, Vikarabad, Andhra Pradesh)*





# Strike: a boon for nursing profession

\* Dr Neelam Thakur, \*\* Ms. Radha Saini,

\*\* Ms. Sukhdeep Kaur Ghera

**T**he meaning of the word “Nurse” is to care, nurture, help the sick and the needy, and in a broader sense “to rehabilitate”. Nursing profession symbolizes care, compassion, love and affection. In fact it is truly called ‘mothering’. The very essence of a nurse is selfless service with a true spirit of dedication. Gone are the days when this profession was considered just a means of livelihood for the very poor, socially unacceptable, downtrodden and unethical women. Today, it is no more a cakewalk. Nursing career has many specialities as any other branch of medical sciences or humanities has. But this so-called noble profession is yet to attain the recognition it deserves.

## ‘Rural doctors’

In the far flung areas of our country like Leh Ladakh, Lahaul Spiti, where health resources are meagre and health workforce is underdeveloped, Community Health Nurses, and Auxiliary Nurses and Midwives (ANMs) along with Health Workers (male and female) form the actual human resource to cater to the health demands of the rural folk. In fact, they are rightly called ‘rural doctors’ and they also diagnose patients as per the priority and need along with making adequate referrals. Referral system in itself is the greatest development where a health

worker (subcentres are managed by one male and one female health worker) refers the patient after examining him/her, thereby anticipating his/her future needs, to the primary health centre. Health workers are authorized to prescribe common drugs, treat patients with minor ailments, find out cases requiring special care like antenatal mothers, register them, monitor their health, promote institutional deliveries, intranatal care and post-natal care, which also encompass essential newborn care, along with routine vaccination and health education.

## Backbone of rural health

Community health nurses who form the backbone of rural health shoulder responsibility with civil surgeons and the health directorate in providing them all the essential data (preventive, therapeutic or curative) needed for the functioning of various health education campaigns and national health programmes started by Government of India. They constitute the actual workforce behind any national health programme wherein they provide very cost-effective services to the downtrodden community and they also form the actual driving force behind the optimal utilization of community health resources. They are equal stakeholders of the national health budgeting and national manpower planning, and national health





legislation.

Strikes, dharnas, demonstrations, agitations, and gheraos are common nowadays and the last resort of working people. They are resorted to in order to pressurize the local bodies or the government bodies to fulfil their respective demands.

Nursing profession has also been a victim of a number of strikes and agitations. The main demands of this profession are creation of separate Directorate of Nursing Services, like in USA, Canada and UK. We no more want to be under the autocracy and discretion of Director of Health services at the state level and Director-General of Health Services at the national level. We want our separate constitution, budgeting, legislation and overall control along with decentralization of all facilities and services. The government should set up research and development institutions and facilities, apart from setting up nodal bodies for nurses' training and development. Separate national advisory councils and boards need to be formed for maintenance of uniform nursing standards. All nursing procedures and protocols need to be approved and standardized by the Indian Nursing Council and there should be no discrepancy in their implementation, especially relating to their accountability and authority.

Meticulous and rigorous standards need to be formed, especially in terms of critical care and there should be no bias or confrontation when it comes

to independent nursing practice. The nursing profession in India needs to be much diversified and specialized like its counterparts in USA or Canada. We should have more specialized courses like Trauma nursing, Respiratory nursing, Dialysis nursing, Cardio-thoracic-vascular nursing, and Burns nursing. There should also be skilled positions like Nurse educators, Nurse rehabilitators, I/V Nurse, Stoma Care Nurse, Nurse advocates, independent nurse practitioners, advanced clinical nurses, occupational health nurse, prison nurse etc. The latest concept of Space nursing is also gaining momentum in US nowadays. The pay/wages should be as per the latest pay commission guidelines and along with increase in allowances. Special allowances must be paid to night-duty nurses along with providing them proper security and maintenance.

Nursing homes and private clinics have locally trained girls wearing the uniform of nurses and performing all tasks of patient care which ideally a woman who has a degree or diploma in nursing is supposed to do. It is a blot on the name of nursing profession and it is more ridiculous to accept the fact that our senior nurse administrators and leaders are not able to curb this menace even after 60 years of independence.

Till date, nurses have not been able to come up to an equal level with doctors neither in salaries nor in status; they haven't got gazetted status from the government. It makes them quite shameful to know that a language teacher or any humanities teacher is able to enjoy UGC pay-scales, pay-perks and status of Class-I Gazetted Officer whereas nurses, despite working with dedication relentlessly day and night in patient's care in hospitals and day care centres and in the community, do not get enough benefit, nor increments. Their social status remains the same. They are not vocal and



aggressive to win their rights and at times succumb to all injustices and exploitations at the hands of physicians.

## Grievances

A few years ago, nurses from Military Nursing Services gave a tough time to the Director-General of Armed Forces Medical Services as they went on to file public interest litigation (PIL) in protest against the colour of their uniform. Ultimately, they succeeded in getting their demands fulfilled. Another burning demand is of changing the night-shift pattern. More promotional avenues should be created for nurses like sending them for in-service education, on-job training, faculty exchange programmes, in order to make them aware of as well as expose them to latest innovations in the field of science and technology. The latest governmental decision to send nurses, paramedical workers overseas on WHO Fellowships is considered to be a great gift by the government. Another demand is to create additional posts of nursing at the state as well as national levels. At the state level, there should be the position of a Director of Nursing Services in every state who will be assisted by a number of district public health nurses and there should be posts of nursing officers in every district. At the central level, there needs to be the post of a Director General of Nursing Services with a few Additional Directors and Deputy Directors. These positions should not only be filled on a seniority basis but also on competitive basis.

## Not enough bargaining power

National nursing associations are neither competent enough nor do they have enough strength and bargaining power to secure their rights from government. On the other hand, it is worth noting that American nurses could bring the government to its knees to get their demands fulfilled and upgrade themselves equally with other health care professionals. Another concern is the social taboo associated with the indigenous *dais* who, even though provide good health care services at the village level, are in reality have not got any formal education in nursing. They also ruin and spoil the name of the nursing profession by conducting illegal abortions, female feticides, besides being involved in a number of antisocial activities like practising with quacks, changing the sex of the foetus by administration of spurious drugs and



making the women folk believe in blind faiths. Nursing homes and private clinics have locally trained girls wearing the uniform of nurses and performing all tasks of patient care which ideally a woman who has a degree or diploma in nursing is supposed to do. It is a blot on the name of nursing profession and it is more ridiculous to accept the fact that our senior nurse administrators and leaders are not able to curb this menace even after 60 years of independence. It's a crime from the judicial point of view and; aren't we tolerating the fact that some other untrained people are duplicating our services, playing havoc with the patient's life? Isn't it a fraud?

The area of research needs to be explored so as to discover new strategies for patient care. In the light of all this, how can we expect our new graduates to still remain in an environment where there is no chance for professional, intellectual and personal development. This is the main cause that leads most of our nursing graduates to leave India and work abroad. This is very demoralizing and unethical. Its high time the Indian Nursing Council re-evaluated and thought critically about the various aspects of nursing education being implemented in India and laid down stringent guidelines describing the exact role of nurses keeping in view the national health policy of our country thereby making the nursing profession more autonomous from every global perspective. ■

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- An opportunity to be guided by mentors and explore future careers in community or public health.

***When does the programme start?*     June 2008**

***How long is the programme?*         9 months**

***How many vacancies?*                 8 interns / year**

(Some flexible placements of a shorter duration are also available.)

***Who can apply?***

Graduates in Health Sciences (Medicine, Indian Systems of Medicine, Dentistry, Nursing, Pharmacy, Physiotherapy) OR Postgraduates in Social Sciences OR Graduates in Social Sciences with 3 years' working experience in community-based organizations in the area of health and development.

***How to apply?***

Write to the Programme Officer, Community Health Cell, by post or by email, with your CV and a small note on 'why you wish to join the programme'. Write to us for any further queries.

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# 367, Srinivasa Nilaya, Jakkasandra 1st Main, 1st Block, Koramangala, Bangalore – 560 034  
Tel: 080- 2553 1518 / 2552 5372   Fax: 080- 2552 5372  
Email: [chinternship@sochara.org](mailto:chinternship@sochara.org) ; Website: [www.sochara.org](http://www.sochara.org)**

***Last date for receiving applications:*     March 31<sup>st</sup>, 2008**

The Community Health Learning Programme is the phase 2 of the Community Health Fellowship Scheme (2003 –2007) and is supported by the Sir Ratan Tata Trust, Mumbai.



# Avian flu

## Its public health implications

Dr. Rajan R Patil

**S**urveillance networks all over the world have been triggered ever since countries one after another are experiencing avian flu or bird flu outbreaks. Bird flu in itself is not a public health hazard provided it remains restricted to birds, but the bird flu virus-H5N1 has the potential to mutate and infect humans which could trigger another global pandemic. Hence the need for close surveillance of bird flu and contain its spread.

### Scientific facts behind the fear psychosis

- Bird flu virus does not usually infect humans; it circulates among birds only. But the current bird flu strain H5N1 virus is affecting humans. In 1997, the first case of spread from a bird to a human was seen during an outbreak of bird flu in poultry in Hong Kong; since then about 349 people were infected by bird flu and has caused 216 deaths in 14 countries across the globe.
- The current outbreaks of highly pathogenic avian influenza, which began in South-east Asia in mid-2003, are the largest and most severe on record. Never before in the history of this disease have so many countries been simultaneously affected, resulting in the loss of so many birds.
- Because all influenza viruses have the ability to mutate, there is concern that the H5N1 virus could mutate and be able to infect humans and spread easily from one person to another. Because these viruses do not commonly infect humans, there is little or no immune protection against them in the human population.
- It is also well established that pigs can be infected



with both avian and human influenza A viruses. Considering the widespread nature of the current H5N1 outbreak in Asia, and the capability of influenza viruses to jump the species barriers, it is possible that a pig could become a cocktail shaker for the avian and human strains. In fact, pig is considered as perfect mixing vessel for gene-swapping because they can be infected by both human as well as avian flu.

- As long as human and avian influenza viruses are co-circulating — whether in humans or in pigs — the possibility of an exchange of genetic material exists. That creates a chance of the two strains genetically rearranging themselves into one highly pandemic pathogenic hybrid virus.
- If the H5N1 virus were able to infect people and spread easily from person to person, an influenza



# Cooked poultry is safe as bird flu virus can't survive at above 70°C

## What is bird flu?

Bird flu, also known as avian influenza, is a contagious disease that afflicts birds like chicken, duck and turkey. A virus called H5N1 causes it. This virus infects only certain species of animals and rarely crosses over to other species in its present form. Poultry affected by bird flu can develop two types of symptoms – in the milder form, their feathers get ruffled and egg production drops, while in the more serious form, the animal dies within 48 hours due to multiple organ failure.

It is passed on from one bird to another very rapidly through saliva, secretions from the nose and droppings.

Many wild birds can carry the virus in their intestines, but do not show any effect. They act as reservoirs of the virus. Other birds from vulnerable species can get infected from them.

## How is bird flu different from the common flu that infects humans?

Flu (or influenza) is caused by a whole family of viruses, which have some similar traits, but differ in some other crucial manner.

The differences are mainly in the structure of the virus depending upon combinations of two types of proteins – the H type and the N type. Names of these viruses are based on the particular combination, like H5N1. Human beings can be infected by three types of flu viruses at present – H1N1, H1N2, and H3N2. The bird flu virus rarely affects human beings.

## How often has the virus caused infections in humans?

The H5N1 virus, which was first discovered in 1997, has till date affected 353 persons, of which 221 have died, according to the World

Health Organization (WHO).

Indonesia and Vietnam have been the worst affected, accounting for more than 60% of cases. Human infection has been caused only among those who came in very close contact with infected poultry, like

feeders, cage cleaners or others who physically handled the sick poultry. The main thing that is preventing the H5N1 virus, in its present form, from spreading among humans is that it is unable to spread from one human being to another easily.

## What medicine can be taken to prevent or cure bird flu infection in humans?

To prevent a pandemic, a vaccine would be required. The vaccine can be developed only when the final shape of the human infecting virus becomes clear. That will not happen until the pandemic actually begins.

Several efforts are already under way to develop vaccines of different combinations so that they can be quickly standardized and made available when the need arises.

## Is it safe to eat poultry products like eggs and chicken meat?

According to WHO, the bird flu virus cannot be transmitted through cooked food. Properly cooked and hygienically handled eggs and poultry meat are safe to eat. The virus cannot survive beyond 70 degree Celsius. However, care should be taken that all parts of the food are cooked properly. Thus, runny yolks or pink parts should be avoided.

*Times of India, 28 January, 2008*



pandemic could begin. No one can predict when a pandemic might occur. However, experts from around the world are watching the H5N1 situation in Asia very closely and are preparing for the possibility that the virus may begin to spread more easily and widely from person to person.

- Each additional human case gives the virus an opportunity to improve its transmissibility in

humans, and thus develop into a pandemic strain. While neither the timing nor the severity of the next pandemic can be predicted, the probability that a pandemic will occur has increased.

- Influenza pandemics are remarkable events that can rapidly infect virtually all countries. Once international spread begins, pandemics are considered unstoppable, caused as they are by a



virus that spreads very rapidly through coughing or sneezing.

## What if bird flu turns into pandemic influenza?

Avian H5N1 is a strain with pandemic potential, since it might ultimately adapt into a strain that is contagious among humans. Once this adaptation occurs, it will no longer be a bird virus—it will be a human influenza virus. Influenza pandemics are caused by new influenza viruses that have adapted to humans.

### *All countries will be affected*

Once a fully contagious virus emerges, its global spread is considered inevitable. The pandemics of the previous century encircled the globe in 6 to 9 months. Given the speed and volume of international air travel today, the virus could spread more rapidly, possibly reaching all continents in less than 3 months.

### *Widespread illness will occur*

Because most people will have no immunity to the pandemic virus, infection and illness rates are expected to be very high. Few countries have the staff, facilities, equipment, and hospital beds needed to cope with large numbers of people who suddenly fall ill together. Opportunities for inter-country assistance may dry up once international spread begins, when governments will be obsessed with protecting domestic populations from global pandemic.

### *Medical supplies will be inadequate*

Supplies of vaccines and antiviral drugs – the two most important medical interventions for reducing

According to WHO, the bird flu virus cannot be transmitted through cooked food. Properly cooked and hygienically handled eggs and poultry meat are safe to eat. The virus cannot survive beyond 70 degree Celsius. However, care should be taken that all parts of the food are cooked properly. Thus, runny yolks or pink parts should be avoided.

## Three Pandemics

During the 20th century, the emergence of several new influenza A virus subtypes caused three pandemics, all of which spread around the world within a year of being detected:

- 1918-19, "Spanish flu," [A (H1N1)], caused the highest number of known influenza deaths. (However, the actual influenza virus subtype was not detected in the 1918-19 pandemic). More than 500,000 people died in the United States, and up to 50 million people may have died worldwide. Many people died within the first few days after infection, and others died of secondary complications. Nearly half of those who died were young, healthy adults. Influenza A (H1N1) viruses still circulate today after being introduced again into the human population in 1977.
  - 1957-58, "Asian flu," [A (H2N2)], caused about 70,000 deaths in the United States. First identified in China in late February 1957, the Asian flu spread to the United States by June 1957.
  - 1968-69, "Hong Kong flu," [A (H3N2)], caused about 34,000 deaths in the United States. This virus was first detected in Hong Kong in early 1968 and spread to the United States later that year. Influenza A (H3N2) viruses still circulate today.
- Both the 1957-58 and 1968-69 pandemics were caused by viruses containing a combination of genes from a human influenza virus and an avian influenza virus. The 1918-19 pandemic virus appears to have an avian origin.

RRP

illness and deaths during a pandemic – will be inadequate in all countries at the start of a pandemic and for many months thereafter.

### *Large numbers of deaths will occur*

The world health organization (WHO) has used a relatively conservative estimate – from 2 million to 7.4 million deaths. This estimate is based on the comparatively mild 1957 pandemic. Estimates based on a more virulent virus, closer to the one seen in 1918, have been made and are much higher.

### *Economic and social disruption will be great*

High rates of illness and worker absenteeism are expected, and these will contribute to social and economic disruption. Past pandemics have spread globally in two and sometimes three waves. ■

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*This article, based on study findings, highlights the mental and physical problems women undergo during menopause and suggests ways to overcome such problems.*

# Menopause

Dr Bimal Kanta Nayak

Human life constitutes various specific stages, both for men and women which each one of us has to pass through. Each stage of human life is very important and unique in nature as certain physical development takes place in its own way. There is no doubt that one stage of life is interconnected with the other; accordingly, physical growth takes place in a natural process. It is a fact that there is a slightly different stage of womanhood in comparison to manhood.

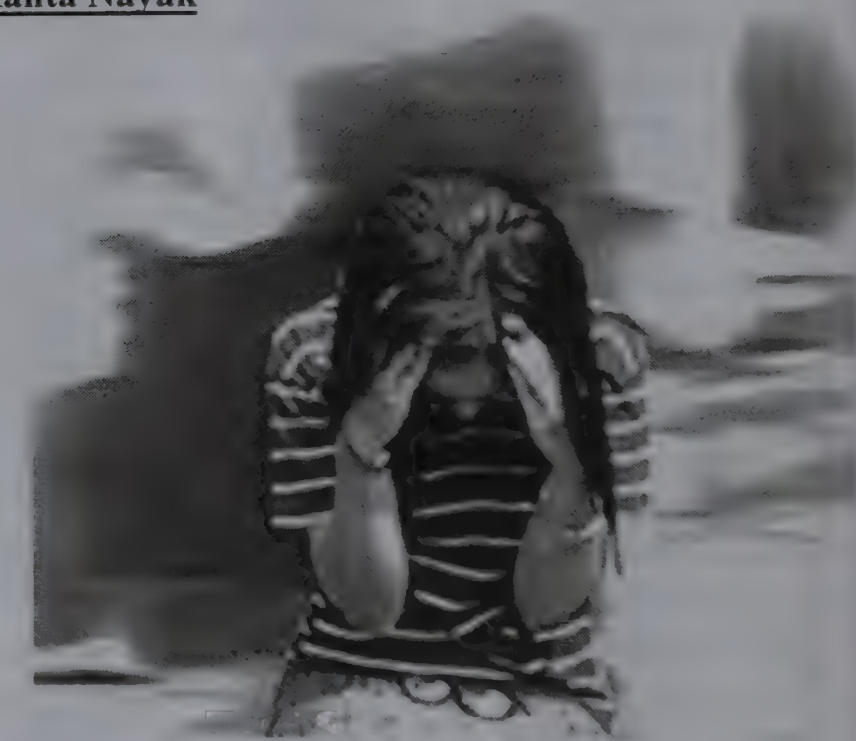
## Mangalore study

A study was done among women aged 40-50 years on the problems caused by menopause at Mangalore city corporation of Dhakshina Kannada District of Karnataka State, situated on the western coast of India with an area of 4866 sq. km. Mangalore is known for being a centre of education.

The objective of the study was to examine the physical and psychological problems of women during menopause. The area of the study covered the whole Mangalore city corporation where its population is 419306; out of it 100 samples were taken for the study. Purposive sampling was adopted to collect the data with the help of a structured interview schedule.

## Menopause

Menopause is one of women's most important life stages. It marks the end of menstruation leading to women's aging-process when she cannot become pregnant. In other words, it is the physiological cessation of the menstrual cycle associated with



advancing age. It is a natural process that happens to every woman as she grows older and not a medical problem, disease or illness, even though it may appear so. Some women may have a hard time because of the changes of hormone levels during menopause. The average age of menopause is 52 but it can happen anytime between the ages of 42 and 56. A woman can say she has entered menopause when she has not had periods for a full year.

## Responses to menopause

It is true that most women welcome the end of monthly bleeding, bloating and inconvenience, often leading to frustration in life. For some, it is a time of personal growth and renewal, and to others, it is a challenging period of difficult physical and emotional changes as they find that menopause affects sex life, triggers mood swings, causes debilitating hot flushes



and takes them down the road to bone and hearing problems.

Each woman reacts to menopause differently. It varies from one woman to another; and varies among women of different countries and cultures. A woman's experience of menopause can be related to many things including genetics, diet, lifestyle, social and cultural attitude toward older women..

Factors affecting it:

- Lifestyle: diet, exercise, weight, smoking environment etc
- Genetic makeup: the genes that come from parents, the blueprint of one's constitution etc
- Hormones: estrogen, progesterone and others

## PROBLEMS DURING AND AFTER MENOPAUSE

Whether it is during or after menopause, a woman is likely to experience health problems — physical and psychological — caused by hormonal changes. Osteoporosis results in brittle bones because of low levels of estrogen. Low levels of estrogen can also lead to heart problems. Other problems associated with menopause are heart disease, Alzheimer's disease, colon and rectal cancers etc.

Symptoms: Menopause which brings a change in menstrual cycle is accompanied by a host of possible symptoms including physical and psychological symptoms. Not everyone experiences the same symptoms and to the same degree.

### ★ Skeletal:

Back pain, osteoporosis, joint and muscle pain

### ★ Urogenital instability:

Bleeding, urinary frequency, itching, and dryness

### ★ Vasomotor instability:

Hot flushes including night sweats, and sleep disturbances

### ★ Psychological symptoms

Memory loss, irritability, mood disturbance, and fatigue.

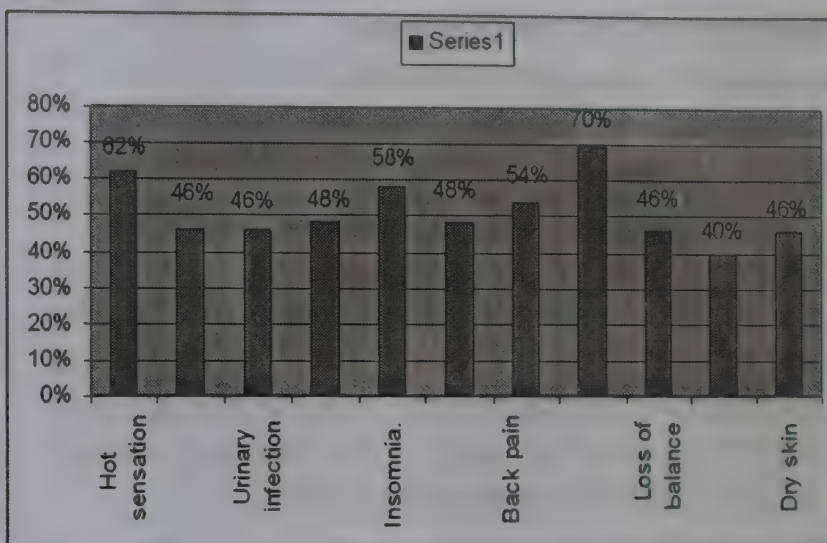
## Highlights of findings

### Physical symptoms:

- ★ 62 % experienced hot sensation in their bodies
- ★ 46 % had headache.
- ★ 46 % developed urinary infection.

- ★ 48 % faced the problem of hair-thinning or loss.
- ★ 58 % suffered insomnia.
- ★ 48 % obtained weight gain.
- ★ 54 % developed back pain.
- ★ 70 % had joint and muscle pain.
- ★ 44 % lacked interest in daily activities.
- ★ 46 % experienced loss of balance.
- ★ 40 % experienced bad taste in their mouth.
- ★ 46 % developed dry skin.

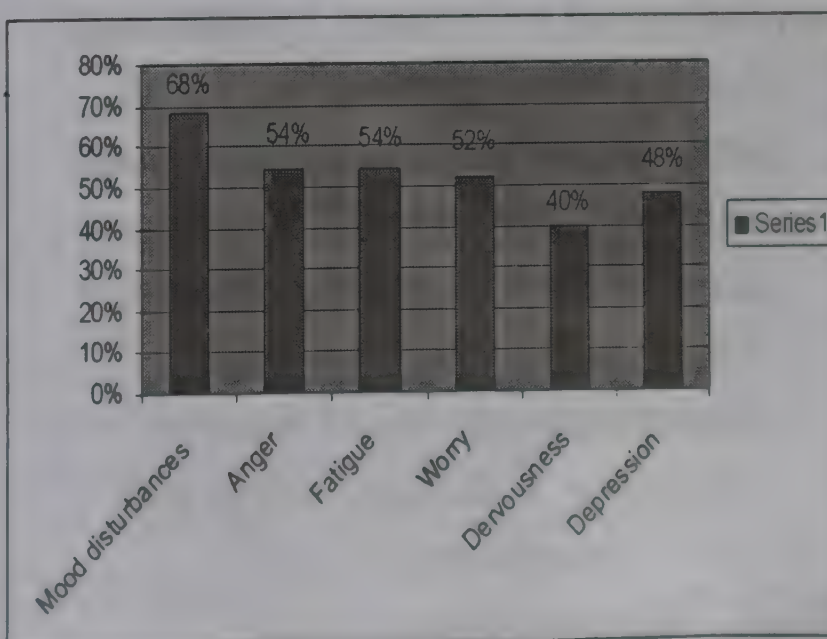
### Physical Symptoms



### Psychological Symptoms:

- ★ 68 % had mood disturbances.
- ★ 54 % developed anger.
- ★ 54 % experienced fatigue.
- ★ 52 % worried during the time of menopause.
- ★ 40 % developed nervousness.
- ★ 48 % felt depression during the time of menopause.

### Psychological Symptoms





The study also revealed statistics of women living in rural areas of some states in India who are more prone to premature menopause  
(Source; *Social Welfare Vol. 54 No.7* October 2007).

Among these:

- \* 31.4 % from Andhra Pradesh
- \* 21.% from Bihar
- \* 20.25 % from Karnataka
- \* 13. % from Rajasthan
- \* 11.6 % from Kerala

### Management of menopause

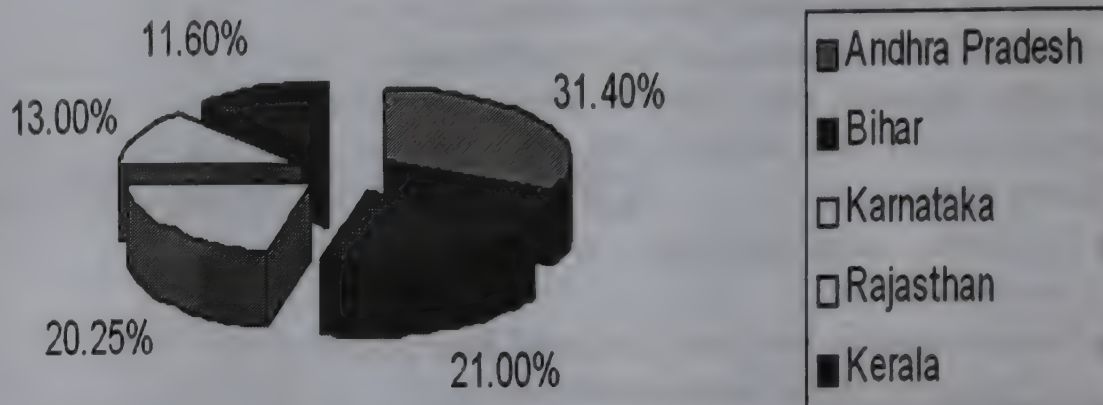
In order to manage the problem of menopause the following ways could be adopted:

- *Physiological aspects* involve hormone therapy -- administering both estrogen and a form of progesterone; estrogen therapy helps women who no longer have uterus cancer. Nutrition management like eating right dishes at the right time helps in preventing some of the long-term-effects that are linked to estrogen deficiency .
- *Psychological aspects* include counselling or support group to help women overcome their problems like depression or anxiety, conflict and anger management. Communication skills helps woman to share her feelings and problems with her partners for further course of action.

During or after menopause, a woman is likely to experience health problems —physical and psychological — caused by hormonal changes. Osteoporosis results in brittle bones because of low levels of estrogen. Low levels of estrogen can also lead to heart problems.

Other problems associated with menopause are heart disease, Alzheimer 's disease, colon and rectal cancers etc.

- *Self-care* becomes very important in the process of managing menopause. There are various aspects



where self-care plays a vital role in handling menopause such as cool-hot flushes, decreasing vaginal discomfort, optimizing the level of sleep, eating well, and exercising regularly etc.

### Treatment

Menopause itself requires no medical treatment. Instead, treatment focuses on relieving the signs and symptoms in preventing or lessening chronic conditions that occur with aging. Treatment includes hormone therapy, low-dose antidepressants related to the class of drugs called selective serotonin reuptake inhibitors (SSRI) to decrease hot flushes by up to 60 per cent and birth control pills.

And other indirect treatment methods include exercises, yoga, elimination (regularly eliminate waste products from the body which is crucial in maintaining balance), acupuncture and biofeedback.

*Social response:* each one of us seeks the support of family and relatives desperately when we are in need of it. In response to it, when the needy person in the family is helped it becomes a family or social response. In the same way, every one in the family should try to understand each one's needs and be ready to render requisite help. It is very important that the woman first of all needs to accept in a positive way that menopause is a part of womanhood. She must seek the help of family members to adjust herself with the changes caused by menopause. ■

(The author acknowledges various references which are available on request

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# Banana



*the ideal food for all age-groups*

\* Dr V Vijaya Lakshmi; \*\* D V D Naga Lakshmi

**B**anana is the ideal food for all age-groups due to its ready availability, filling of the stomach, quick release of energy and nutrient content. India is the largest producer of bananas in the world with an annual production of 13.09 million tons from an area of 4.33 lakh hectares. Banana occupies 31.7 per cent of the total fruit production in India.

Bananas are of many varieties, each with a distinctive flavour, colour and size. The colour of banana ranges from different shades of green, light to deep yellow to red. Raw banana (plantain) is used as a vegetable in varied preparations from snacks to curries. Sliced raw banana fried in oil makes very tasty wafers. Ripe banana is the most extensively eaten fruit liked by all age-groups from infants to geriatrics.

## Its characteristics

- ★ Banana is the most hygienic food which is protected by a safe cover in the form of peel. It has delicious taste and nutritive and medicinal value.
- ★ One medium-sized banana weighs about 50-150 g depending on the variety and on average provides 116 K cal. Banana contains CHO in the form of sucrose, fructose and glucose, which are easily digested and absorbed. It is an excellent source of recovery from fatigue.
- ★ Banana is a poor source of protein. In combination with milk, banana becomes a complete food.
- ★ Banana has very low fat and cholesterol content. So it is recommended for patients suffering from high blood pressure and cardiac failure.
- ★ It is a fair source of B Vitamins and calcium. It contains appreciable amounts of many trace minerals as well as fibre.
- ★ Banana is a good source of potassium which helps to regulate blood pressure. Because of its high potassium content it is contraindicated in kidney failure.
- ★ Ripe bananas are easily digested. Mashed banana is an excellent food for infants at the age of 6 months. It helps in their normal growth and protects them from

infections.

- ★ Banana has a mild laxative property and so useful both in constipation and diarrhoea as they normalize colon functions in the large intestine. The *pectin* present in banana absorbs water and this produces bulk. It also possesses the ability to change the bacteria in the intestines from the harmful type of bacilli to the beneficial acidophyllus.
  - ★ Banana is the only fruit which can be eaten without distress in chronic ulcer cases because of its soft texture and blandness. In this condition, if banana is given along with milk, milk neutralizes the acid and banana contains serotonin a chemical which prevents the secretion of gastric juices. *Pectin* present in banana reduces the irritation in stomach by forming a coating over the inflamed surface.
  - ★ Banana with honey and curd improves general resistance of the body and weight. This can be given during the convalescent period after acute infections and surgical operations.
  - ★ Banana with a glass of milk every night is a medicine for constipation, bleeding piles, coeliac diseases, insomnia etc.
  - ★ Banana is forbidden in diseases such as asthma, bronchitis, tuberculosis etc and contraindicated in kidney failure.
  - ★ Banana flower when cooked is a medicine for profuse menstruation and dysmenorrhea. It may be because banana flower may increase the progesterone hormone and reduce bleeding.
  - ★ Recent studies have shown that banana peel is rich in *luten*, an antioxidant which is good for eyesight.
- Keeping in view the health benefits of banana, one has to include it regularly in one's daily diet. Banana milk, custard and mixed fruit jam are some recipes which can be prepared with ripe banana. ■

(\* Professor, Department of Food and Nutrition, College of Home Science, Saifabad, Hyderabad 04

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# Bioavailability of Iron

## a matter of serious concern

G Suba

**N**utritional anaemia is a major public health problem today. Iron deficiency plays a major role in malnutrition. More than 700-800 million people worldwide are affected by iron-deficiency anaemia.

Iron status of a person depends on the intake of iron, and bioavailability of iron. When there is an imbalance in the intake, bioavailability and the iron need of a person, it results in nutritional anaemia.

### Incidence

*Iron deficiency anaemia* is mainly noted in under-five children (75%); women of reproductive age of 15-49 years, (51%); and it has been noted that 22,000 maternal deaths are caused due to severe anaemia.

### Recommended food intake

The recommended intake of iron is influenced by 2 factors:

- Physiological requirement
- Bioavailability of dietary iron consumed

### Bioavailability of iron

Bioavailability refers to the degree and rate at which a

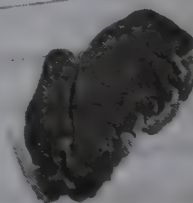
substance (as a drug) is absorbed into a living system and is made available at the site of physiological activity.

Bioavailability has a marked effect on the recommended intake. Meals with similar iron content differ several folds in iron bioavailability when tested. In a diet with high biological value, iron intake is less to meet the same level of requirement. Bioavailability of any food depends on the presence of the host factors and the dietary factors that enhance or inhibit iron absorption.

### Dietary factors

Factors that enhance iron absorption

- ★ Ascorbic acid or vitamin C
- ★ Meat, poultry, fish and sea foods
- ★ Low PH (Lactic acid etc)



Factors that inhibit iron absorption

- ★ Phytates
- ★ Polyphenols



### Host factors

- ★ Iron status of a person
- ★ Health status

### Categories of iron bioavailability

- Low bioavailability diet
- Very low bioavailability diet
- Intermediate bioavailability diet
- High bioavailability diet

#### *Low bioavailability diet*

- ★ Monotonous diet based on cereals, roots and tubers and negligible quantities of meat, fish and vitamin C
- ★ Contains foods that inhibit iron absorption like maize, rice, whole wheat flour and sorghum, very typical diet of many developing countries among poorer population
- ★ Contains 30g meat, fish, poultry or vitamin c less than 25 mg





- \* Iron absorption rate is 5-15%

*Very low*

*bioavailability diet*

- Entirely based on cereals

- Iron absorption rate is only up to 3-4%

*Intermediate*

*bioavailability diet*

- \* Made of cereals, roots and tubers

- \* May include some foods of animal origin or vitamin C.

- \* Contains 30-90g meat, poultry, fish or 25-75 mg of vitamin C.

- \* Rate of absorption is 11-18%

*Table*

**Recommended iron intake designed to cover requirements of 97.5% of individuals in each age/sex group for diets with different bioavailability\***

Age/sex/group	Type of diet (% iron absorbed)			
	Very low bioavailability (<5%)	Low bioavailability (5-10%)	Intermediate bioavailability (11-18%)	High bioavailability (>19%)
0-4 mts	Breast milk is enough			
4-12 mts	24	13	6	4
13-24	15	8	4	3
2-5 yrs	17	9	5	3
6-11 yrs	29	16	8	5
12-16 yrs (girls)	50	27	13	9
12-16 yrs (boys)	45	24	12	8
Adult (male)	28	15	8	5
Adult (menstruating female)	59	32	16	11
Pregnant	Based on their pre-pregnant status			
Lactating	33	17	9	6
Menopausal	24	13	6	4

\* WHO, Geneva (1989)

## High bioavailability diet

- \* Diversified diet containing generous quantities of meat, poultry, fish and foods rich in ascorbic acid
- \* Typical of most population groups in industrialized nations.
- \* Contains 90g of meat, fish poultry or more than 75 mg of vitamin C
- \* High bioavailability diet may also contain 30-90g of meat, fish or poultry and 25-75 mg of vitamin C.
- \* A low bioavailability diet can be brought up to intermediate bioavailability diet by increasing the intake of food that increases iron absorption such as meat, fish or foods rich in ascorbic acid.

Bioavailability refers to the degree and rate at which a substance (as a drug) is absorbed into a living system and is made available at the site of physiological activity.

Bioavailability has a marked effect on the recommended intake.

- \* A high bioavailability diet can be reduced to intermediate level bioavailability diet by regular consumption with meals of absorption inhibitors such as tea or coffee. Some age-groups will not be able to meet their iron needs at a food consumption level that is adequate for their energy needs with a low bioavailability diet.

This is often noted in the case of under-five children, adolescent girls, menstruating women and pregnant women. Hence diet must be carefully selected which has high bioavailability of iron and also low in the inhibitors of iron absorption.

## Simple ways to enhance bioavailability of iron

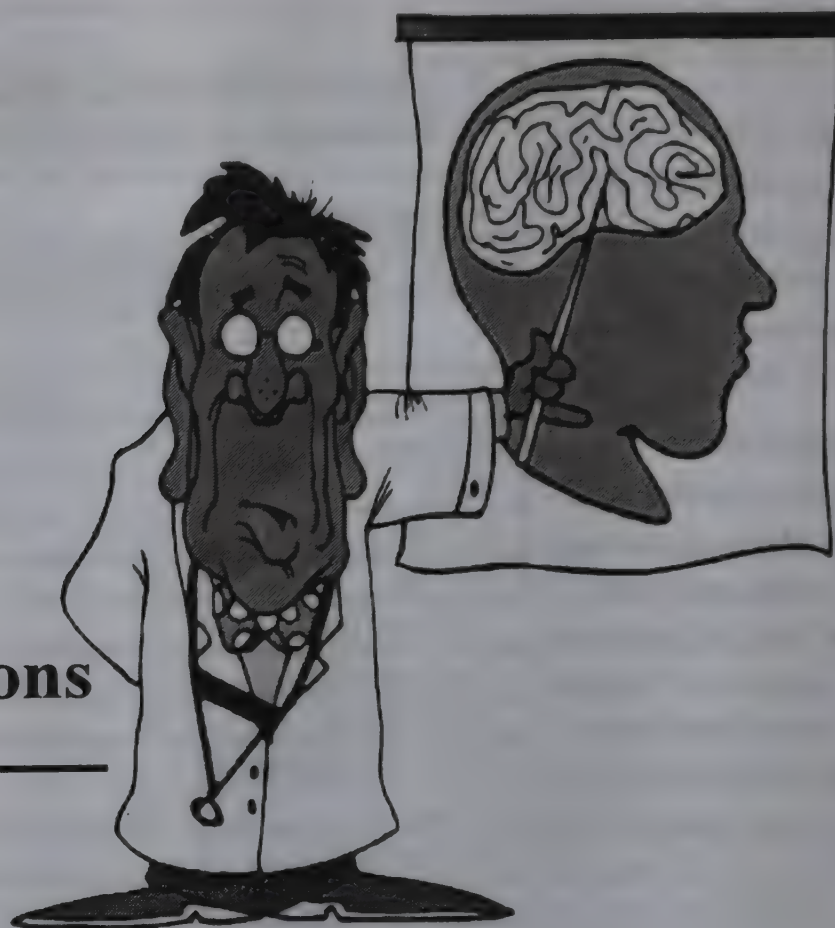
- \* Have citrus fruits in your meal, high vitamin C content helps in iron absorption
- \* Add non-vegetarian foods regularly at least to a level of 30g to enhance iron absorption by making your meal a high-bioavailability-diet.
- \* Reduce the intake of foods containing polyphenols and phytate that inhibit iron absorption
- \* Cut down on the intake of coffee and tea. If that is not possible, then stop taking coffee and tea an hour before or after meal – it will make your diet low or a very

(Continued on page 30)



# Epilepsy

## Frequently-asked questions



### *Is epilepsy a common condition?*

Epilepsy affects nearly one per cent of the population. Though the number is massive, nobody talks about it because of social taboo.

### *Are convulsions and fits the same as epilepsy?*

Convulsions and fits are involuntary movements of limbs accompanied by the loss of consciousness. Conditions like kidney failure, liver failure, alcohol intake or bleeding in the brain can cause convulsions. People with epilepsy need not have any of these conditions.

### *Is epilepsy preventable?*

To some extent, by preventing head injury, stroke and infection.

### *Is there an association between sleep and epilepsy?*

Lack of sleep can precipitate seizures. Some seizures, like frontal lobe epilepsy with rolandic spikes, happen more during sleep.

### *What are the types of epilepsy?*

Generalized epilepsy where the patient is unconscious; generalized tonic, clonic seizures, absences, myoclonic epilepsy. Partial epilepsy (where the patient is fully aware): Simple partial seizure and complex partial seizure. Partial could become

generalized.

### *Is epilepsy curable?*

The use of anti-epileptic drugs can bring epilepsy under control in about 80 per cent of cases. Many of them can stop medication after a seizure-free period of 2-5 years.

What is not contained by drugs can be corrected with surgery. Vagal nerve stimulation is another treatment option.

### *What triggers epilepsy?*

In most cases, no cause can be detected. Lack of sleep, alcohol and intense fasting are possible triggers.

### *Is yoga effective therapy for epilepsy?*

Any exercise that can relax the mind could have a positive impact because stress could worsen epilepsy. The patient would have to continue taking anti-epileptic drugs while practicing yoga or meditation.

### *Should people with epilepsy follow a specific diet?*

No, there is no special diet for epilepsy

### *What is a ketogenic diet?*

It is high on fat content and low on protein. Though



Nothing stops children with seizures from studying and pursuing their ambitions. However, they should avoid driving or adventure sports. A seizure could even happen in school

it helps to control childhood epilepsy like Lennox Gastaut Syndrome, consult your doctor.

### Does epilepsy affect the child's education?

Over-protective parents and non-supportive teachers can have an adverse effect on the child. Ensure a cordial and positive atmosphere at home and school, which will encourage the child to study in spite of his/her limitations. Nothing stops children with seizures from studying and pursuing their ambitions. However, they should avoid driving or adventure sports. A seizure could even happen in school. Parents must not keep the condition under wraps so that the child gets proper care during seizure.

### Can an epileptic child take part in sports?

Games like football, cricket and tennis are fine, but they should avoid adventure sports during the period of treatment.

### Are night shifts advisable for epileptics?

Avoid, especially if seizures are associated with lack of sleep.

### Can people with epilepsy drive?

The Motor Vehicle Act in India does not allow them to drive.

### Does marriage cure epilepsy?

No, it is a myth. Marriage is not a cure for epilepsy. But an epilepsy patient can lead an absolutely normal life, and have children. Since marriage is not a cure for seizures, they should continue taking drugs. Do not hide the condition from the spouse-to-be.

### Is epilepsy a ground for divorce?

Until recently, yes. But the Indian Epilepsy Association challenged the provision in court and, in 1999, the law was changed to enable a person with epilepsy to enter a normal and legally valid marriage. However, what needs to change is the mind-set of the people. People fear that epilepsy might be passed on to the child. There is also a fear that the anti-epileptic drugs could have an adverse effect on the child in the womb. Seek the help of the doctor.

### What are febrile seizures?

Usually seen in kids, these happen during fever. These seizures are short, and do not affect the child's development. Bring down the fever with the prescribed medication. ■

(Courtesy: The Week XTRA November 25, 2007)

#### Form IV (See Rule 8)

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- I, Dr (Sr) Placida Vennalilvally, hereby declare that the particulars given above are true to the best of my knowledge and belief.

15/02/2008

Sd/-



# Hospital Care for Children - 19

## DRUG DOSES OF COMMON DRUGS FOR NEONATES

*Drug doses of common drugs for neonates and low birth weight babies*

Drug	Dosage	Form	Weight of baby in kg						
			1-<1.5kg	1.5-<2kg	2-<2.5kg	2.5-<3kg	3-<3.5kg	3.5-<4kg	4-<4.5kg
Aminophylline for apnoea prevention	Calculate the EXACT oral maintenance dose								
	Loading dose:								
	Oral or IV over 30 minutes	250 mg/10 ml vial	0.4-	0.6-	0.8-	AMINOPHYLLINE IS NOT USUALLY USED FOR TERM BABIES WITH APNOEA			
	10mg/kg, then	Dilute loading dose to 5 ml with sterile water, give slowly over 15-30 min	0.6 ml	0.8 ml	1.0 ml				
	Maintenance dose:								
	First week of life:		0.1-	0.15-	0.2-				
	Oral: 2.5mg/kg/ dose 12 hourly		0.15 ml	0.2 ml	0.25 ml				
Weeks 2-4 of life		0.15-	0.25-	0.3-					
Oral: 4mg/kg/dose 12 hourly		0.25 ml	0.3 ml	0.4 ml					
Ampicillin	IM/IV: 50 mg/kg every 12 hours (1st week of life)	Vial of 250 mg mixed with 1.3 ml sterile water to give 250 mg/1.5 ml	0.3- 0.6 ml	0.6- 0.9 ml	0.9- 1.2 ml	1.2- 1.5 ml	1.5- 2.0 ml	2.0- 2.5 ml	2.5- 3.0 ml
	Every 8 hours (weeks 2-4 of life)								

Drug	Dosage	Form	Weight of baby in kg						
			1-<1.5kg	1.5-<2kg	2-<2.5kg	2.5-<3kg	3-<3.5kg	3.5-<4kg	4-<4.5kg
Caffeine citrate	Calculate the EXACT oral maintenance dose								
	Loading dose: Oral: 20 mg/kg (or IV over 30 minutes)								
			20-30 mg	30-40 mg	40-50 mg	50-60mg	60-70 mg	70-80 mg	80-90 mg
	Maintenance dose: 5 mg/kg daily oral (or IV over 30 minutes)								
			5-7.5 mg	7.5-10 mg	10-12.5 mg	12.5-15 mg	15-17.5 mg	17.5-20 mg	20-22.5 mg
Cefotaxime	IV: 50 mg/kg	Vial of 500 mg mixed with 2 ml sterile water to give 250 mg/1 ml	0.3 ml	0.4 ml	0.5 ml	0.6 ml	0.7 ml	0.8 ml	0.9 ml
	Premature babies: every 12 hours								
	1st week of life every 8 hours								
	Weeks 2-4 of life every 6 hours								



# Responding to HIV/AIDS challenge through strengthening STD services

\* Dr.Saraswati Raju Iyer

**T**he term “venereal diseases” has been recast under the euphemism “sexually transmitted diseases (STDs)”. Major conditions that are sexually transmitted are venereal syphilis, gonorrhoea, non-specific urethritis, chancroid or soft sore, lymphogranuloma venereum and granuloma inguinale or donovanosis.

Minor conditions that are sexually transmitted which affect not only the promiscuous, but also some people who are long married, are: scabies of the genitalia, trichomoniasis, thrush, pubic lice, herpes simplex, warts, and viral hepatitis B.

The major conditions occupy a special position among communicable diseases in as much as they are linked up with one of the basic instincts of humans. Syphilis and gonorrhoea are the major diseases from the individual and public health points of view. Syphilis is responsible for many neonatal deaths (deaths occurring within 4 weeks or 28 days after birth), mental diseases, blindness and serious cardiovascular diseases. Gonorrhoea remains a dangerous disease for women. It has been shown that gonococcal salpingitis complications in the female occur in 10 per cent and sterility in 3 per cent of the

cases. In the male, prostatitis and epididymitis occur in 1 to 2 per cent cases of gonorrhoea.

## **Modes of transmission**

Sexually transmitted diseases are transmitted by direct sexual contact. Transmission by indirect contact is not of much importance. Syphilis is also transmitted congenitally.

## **STDs and HIV transmission**

Any sore on the penis or the walls of the vagina can increase the chance of HIV transmission. One common reason for this is the presence of a sexually transmitted disease such as syphilis, gonorrhoea or chancroid. These diseases cause sores or genital ulcers in and around the sexual organs which provides breaks in the skin through which HIV can pass from an infected partner to an uninfected partner.

Another reason is that the pus or exudate from sores (as a result of sexually transmitted disease) is rich in white blood cells. In an infected person, this pus will contain HIV which increases the risk of transmission to the sexual partner.



Syphilis is responsible for many neo-natal deaths (deaths occurring within 4 weeks or 28 days after birth), mental diseases, blindness and serious cardiovascular diseases. Gonorrhoea remains a dangerous disease for women. It has been shown that gonococcal salpingitis complications in the female occur in 10 per cent and sterility in 3 per cent of the cases. In the male, prostatitis and epididymitis occur in 1 to 2 per cent cases of gonorrhoea.

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### Prevention of STDs

'Prevention is better than cure' is an old proverb. It is true in the case of many diseases and all the more true in the case of STDs and HIV/AIDS. As the presence of a sexually transmitted disease such as syphilis or chancroid greatly increases the risk of HIV transmission through sexual intercourse, any intervention programme that will reduce the extent of sexually transmitted diseases in a society will help reduce the spread of HIV and AIDS.

Most STDs are easily treated by antibiotics. Sometimes, people delay in going for treatment because they fail to recognize the symptoms. Symptoms of most STDs are easily recognizable in men; they can go unnoticed in women until a very late stage. Some of the early symptoms that call for action are:

- ✱ Itching, soreness or discharge from vagina, penis or anus.
- ✱ A sore, lump or rash on genital area or anus.
- ✱ Increased frequency in urination or pain in doing so.

Another problem is that people may feel reluctant to go for treatment for STDs. They may feel shy to go to a health centre as they believe that someone they know will find out about their STD. Key clinics set up recently have been instrumental in reduction of

STDs to a certain extent but the location for such centres is not ideal since there is no room for privacy of the patients. They may further feel that going to a government health centre is a waste of time because they do not have the necessary medicines to treat STDs. People then go directly to pharmacists, traditional healers or peddlers of drugs in market places and buy medicines without consulting a doctor. Pregnant women at ante-natal clinics are often screened for STDs, especially syphilis, and this provides an opportunity for treatment and counselling.

### Responding to the challenge of HIV/AIDS

India, like many other countries, is responding to the challenge of AIDS by strengthening their STD services. Special STD clinics are being opened that provide screening, confidential treatment and counselling on prevention. Health workers in primary health care centres are being trained in the recognition and treatment of STDs. Counselling is offered on the prevention of HIV/AIDS. Key centres are being set up in different places. Condom is provided and its use is explained. It is becoming a routine to screen STD patients for HIV and special counselling is provided to persons who are found to be HIV antibody positive.

The slow progression from HIV infection to AIDS means that it is difficult to evaluate AIDS education programmes directly by showing a reduction in AIDS cases. A decline in the level of sexually transmitted diseases becomes a very good indicator of the extent to which the public is taking the AIDS education seriously. This has been found in studies of groups such as truck drivers in Tanzania, sex workers in Thailand and homosexual men in USA, where an increase in condom use has led to a sharp fall in the levels of sexually transmitted diseases.

It is needless to say that control of sexually transmitted diseases should include adoption of a comprehensive programme which includes case-finding, treatment, epidemiological treatment, follow-up, social therapy and health education. ■

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*(The author acknowledges various sources which are available on request)*



# Disposing condemned hospital equipment

Wg Cdr R Franklin

The 'Optimum Utilization of Scarce Resources' should be cardinal to any health care establishment in a competitive context. Health care equipment which have a short 'Life cycle' period on account of continuous innovation must (because of technology) be gainfully disposed of so that the proceeds of disposal can be utilized for the purchase of technologically superior equipment.

Renewal of equipment is a constant process in any health care institution. The other necessity for renewal arises from the following facts:

- ★ Equipment becomes unserviceable due to fair wear and tear/age
- ★ Obsolete/obsolescent equipment
- ★ System redundancy

It is necessary that a proper procedure be adopted forming a committee with members from various disciplines, which will oversee the proper condemnation/renewal of equipment.

A committee comprising the following personnel is proposed for the condemnation of equipment

- ★ Convener – Nursing Superintendent/Consultant – Maintenance
- ★ Members – 1) Maintenance Manager
- ★ Secretary – 2) Mechanical/Electrical supervisor

This committee should meet once in a month on the 2<sup>nd</sup> or 4<sup>th</sup> Friday

A format for department to ask for condemnation (with details of equipment) is at Appendix "A" to this paper.

Once the committee decides to condemn the equipment, the committee will produce a minutes with the list of equipment as an appendix to the minutes.

This will be countersigned by the Administrator. The secretary of the committee will then raise a condemnation certificate for the equipment in three copies. Two copies –

Red and Blue will be given to the department (*Appendix B*).

The red copy will be filed by the department as a proof of the removal of the equipment from the inventory of the department.

The blue copy will be attached to the purchase requisition for new equipment

In case no replacement is required both the copies will be filed by the department (condemnation without replacement)

The master copy in white will be held by the Secretary, Condemnation Committee as statutory proof. These books should be serially numbered and preserved for a period of time (3 years).

The equipment so condemned will be handed over to disposal for sale to trade/conversion to cash.

Proper condemnation/replacement of equipment will ensure that optimum technology prevails in the institution. It will also help cut down costs as condemnation will be done based on fixed age, condition, redundancy/utility of the equipment concerned. If unwanted equipment is stored in healthcare establishment they will only incur an inventory carrying cost, increased pilferage and clutter up the areas. This should be avoided. Management of usable inventory to optimum levels should be the policy of any institutions striving for excellence.

## Disposal of equipment (reduce to produce)

Disposal of condemned equipment should normally be done by a disposal committee. The committee composition can be as follows:

- ★ Convener – stores officer /rep of stores
- ★ technical member – for cost evaluation
- ★ finance member
- ★ secretary – condemnation



## Application for Condemnation

To  
The Convenor  
Condemnation committee

Date

Replacement cost (present).....Reasons for condemnation.....Whether replacement is needed .....  
Yes/No

Department Head

Appendix B

## Certificate of condemnation (3 copies – red blue and white)

Certified that the following equipment has been condemned at Condemnation Committee Meeting on .....  
Date.....1. Name of department..... 2. Description of equipment .....

Disposal of copies

Red + Blue : To department

White : Secretary Condemnation Committee (for record)

For all major items (example: motor vehicle, x-ray machine, motors, pumps etc), a reserve price must be arrived at. Other equipment can be evaluated as a lot and a floor price arrived at by the committee.

All metal extrusions, brass valves, copper wires etc, should be disposed of by weight, after ascertaining market rates. The hospital may have a panel of scrap dealers empanelled from whom quotations can be obtained. Items with high value can be advertised in the papers (like automobiles) and sealed tenders obtained with earnest money deposit. The tenders can be opened on a

fixed day and time in the presence of Bidders to ensure fairplay. Such items are normally disposed off in 'as is where is basis'.

## Conclusion

Disposal and condemnation properly carried out will generate a large income for the hospital which can be used gainfully for the improvement of healthcare services. It will also ensure optimal inventories in the hospital premises, and thereby ensuring cleanliness and hygiene. ■

(The author is Consultant, St John's Medical College, Bangalore)

(Continued from page 23)

low bioavailability diet.

- ★ Remember, physiological stages of pregnancy may need iron supplementation as iron tablets as the iron need is very high as increased needs cannot be met through diet alone.
- ★ Include fleshy foods in diet as it has iron in readily absorbable form
- ★ Also red meat enhances the absorption of iron from other foods
- ★ Cooking foods in iron pans will increase iron content of the food items
- ★ Slow and medium flame cooking degenerates the iron absorption inhibitors thus improving the bioavailability of nutrients
- ★ Germination and fermentation increases vitamin C

level in foods that may aid in the absorption of iron

- ★ Vitamin C (or drinking a glass of orange juice) with a meal containing iron-rich foods makes the diet of high bioavailability because this can triple the amount of absorption of iron than iron rich food by itself
- ★ For vegetarians or vegans, it is important to consume sufficient amounts of moderately rich iron foods such as beans, legumes, and fortified breads, cereals, flours and soy products. ■

(The author is Lecturer, RVS College of Nursing, Sulur,  
Tamil Nadu.

Acknowledges various references which are available on request)



# Curriculum-Design Skills

Fr J Murickan, Ph D

**G**ranted that modern-day employment market is mostly skills-driven and partly knowledge-alone-driven, value addition through new and better skill-sets become the focus of curriculum designers.

Knowledge-smart is not necessarily skills-smart; nor skills-smart is necessarily people-smart. As employability depends on all these at differing levels, the curriculum should strive for enhancing the employability rather than spooning out information on diverse subjects.

Past curricula used to be concerned with measuring data output (tests and exams) against data input (text books) rather than skills for employability in the job market. Modern-day curricula strive to modify this situation realizing that value addition in employment context depends mostly on skills rather than on knowledge alone.

However, the focus of modern-day curricula is far more than mere acquisition of knowledge or skills and their application at a job. The movement from knowledge-giving curricula to skill proficiency to employability has not kept pace with the demands of the market place. This fact has led to fluid and flexible curricula wherein the future employer and the student decide the type and content of the curriculum and not the educational service institutions or other service-providers.

The bottom-up approach is based on the fact that the future employers in the corporate sector or any other sector does know well what skills they will need from the student under training; and they need not be concerned about the student being imparted non-usable skills.

And the students' involvement in curriculum design takes into account their own awareness of their talents

Curricula should be industry-specific and student-specific; there is no curriculum that suits all needs but some curricula will address some needs of the job market.

and abilities and desire to develop such talents as well as future career goals.

One of the main concerns of all curriculum designers about the involvement of the consumer (student) for the services (training) rendered by an institution (service-provider) is thus addressed to the satisfaction of the student with ample space for each one's interpretation of the values of success and recognition of talent.

Then it would appear that the best and most effective curricula are those designed with keeping in mind the role of various stakeholders, and those that fulfil their needs. That would mean as far as viable, curricula should be industry-specific and student-specific; there is no curriculum that suits all needs but some curricula will address some needs of the job market.

Wherever required, the curricula should boost team-play or individual talent and abilities; team-specific and individual-specific curricula, flexible as they are, try to address these goals.

The shift of the curriculum gradually from a course to a class to teams and individuals with their specific needs and goals will allow for the engagement of a student at a time, person to person, informal and with immediate application in the job market.

In such a context, the possibility of success-creating soft skills such as people skills, communication, body language, voice training, dress code and the like, so that in addition to employability, the student becomes suitable for the global job market, not just some specific regional market of a geographical area.

The fact that modern-day curricula race to correct centuries-old archaic system of bookish knowledge and certification of memory tests as course completion, is only part of the story of modern curriculum design effort; the suitability to job market and concerns of the personality development of the students and their career goals have to be given utmost importance.

The best designs of curricula are those that equip a student as a future employee who can easily navigate diverse cultures of global organizations not only being at home with cultural diversity but also handle it with success and satisfaction! ■

(murickan@rediffmail.com)



# Water

## sustains and keeps the body shipshape

Dr Seema Kohli

About five thousand years ago, the Vedas observed that 'water is life'. No life on the earth is possible without water. It sustains life. Approximately 70% of a person's total body weight is water.

### Water requirement of our body

The human body is like a pond in which the body's cells and tissues are floating. When the pond dries up, the flora and fauna are affected. Similarly, when the body gets dehydrated, the body's cells and tissues also get dehydrated and shrunk. Sometimes, it may lead to serious consequences. Therefore, to maintain the proper working of bio-system, the body's water requirement should be assessed and fulfilled accordingly.

A person's water requirement depends on factors like environmental temperature, humidity, occupation and diet. Normally two-thirds of water requirement is fulfilled by dietary intakes. Health practitioners suggest about 8 glasses of water per day to replenish one-third of the body's need.

The daily water requirement of a person (without any liver or kidney disease) can be easily calculated by dividing the body weight by two.

Recommended amount of water (daily ounces) – body weight in pounds/2. For example, if a person weighs 160 pounds, the daily intake of water should be  $160/2 = 80$  ounces or 10 cups per day. In this intake tea, coffee and other beverages are not counted, as they have a negative effect. But if it is a hot, dry climate or a person is active in sports, he/she should increase the water intake by 10 to 15 per cent; and also he/she should prefer taking water-rich fruits and vegetables.

### Physiological functions of water

- A building material in the construction of cells.
- A natural purifier. In our body, various biochemical reactions occur within a narrow window of

concentration. Water has the capacity to wash off various toxins and biochemical wastes from our body.

- A lubricant in the joints and various internal organs.
- A solvent for the transportation of nutrients to the cells.
- A body temperature regulator, it helps in the dissipation of heat from the body
- An enhancer of enzyme function of energy, detoxification, digestive and neurotransmitter system
- A diuretic and antidote for stress

### Problems of water deficiency

Human body normally maintains a water balance i.e. the amount of water is equal to the water excreted or lost. Normally, water is lost from body through kidneys (urine), skin (sweat), lungs (exhaled air), eyes (tears) and intestines (feces). The loss of water increases due to sports or any physical activity, hot and dry climate and disease conditions like diarrhoea and vomiting. Severity may result in dehydration when the loss exceeds the intake. Sometimes in such a situation, we may need medical attention.

Our sensitivity to thirst diminishes with progression of age and as a consequence, a subtle level of dehydration develops unknowingly. This results in disorders like dry skin, headache, fatigue and even constipation and indigestion.

### Comparatively

- A tired cell is dehydrated and shrunk
- An aged cell is dehydrated and shrunk as compared to a young cell
- A toxic cell is also dehydrated and shrunk

These problems can be overcome by proper intake of water and minerals.

### A simple medicine (water therapy)

Indian sages and saints had realized the medicinal and life-sustaining value of water thousands of years ago. It



is also mentioned in the Vedas as *the food of Gods*.

Taking adequate quantity of water is the simplest and cheapest way to save ourselves from ailments. This has also been confirmed by modern medical research. These days health practitioners prescribe water for patients with fatigue, stress, heart disease, lung disorders, diabetes and other nutritional disorders.

All cells contain micro-channels of water that make possible the transfer of materials and information among cells. In the brain cells, water is essential for generation and transmission of nerve impulses. Water is the best cell-energizer and regenerator.

In the gastrointestinal tract, water facilitates the digestive and absorptive functions preventing constipation. In the heart muscles, water smoothens their contraction helping the heart beat.

Water is the best tissue detoxicant; it carries toxins through urine and also enhances the enzymes in liver, helps to protect ends of a bone in a joint preventing arthritis.

Water has been employed to a wide range of diseases apart from those discussed above like headache, anaemia, overweight, sinusitis, bronchitis, hot flushes, hyperacidity, eye diseases, dry skin, prostate cancer, colon cancer, blood pressure, irregular menstruation, and diabetes.

Water also minimizes the stress of the day. A refreshing bath can heal the mind and the body. A frequent and regular intake of water helps in recharging the brain and allows to concentrate longer for hours.

### **Avoid tea, coffee and alcohol**

Tea is the most popular drink that is consumed by millions of people all over the world. According to a

The human body is like a pond in which the body's cells and tissues are floating. When the pond dries up, the flora and fauna are affected. Similarly, when the body gets dehydrated the body's cells and tissues also get dehydrated and shrunken. Sometimes, it may lead to serious consequences.

Therefore, to maintain the proper working of the bio-system, the body's water requirement should be assessed and fulfilled accordingly.

research, 80% of adult population in India consume tea. The daily intake of caffeine is more than 300 mg which is quite unhealthy. But in India, slogans like 'tea is good for heart' and 'tea gives us strength and vitality', are misleading people. The main constituents of tea leaves are caffeine (2.5 to 5.0) and tannin 97.0 to 14.0). On boiling tea leaves with water, caffeine is extracted first and on further boiling tannins get extracted. The positive effect of caffeine is of instant and temporary nature while the negative effects are long-term and manifold:

*Caffeine causes* gas and acid formation which can aggravate ulcer

- elevates blood sugar and blood pressure
- decreases bone health
- stimulates kidneys causing damage
- causes psychic dependence

*Coffee is even a more dangerous drink than tea.* It contains greater percentage of caffeine. Robert Hutchinson, an eminent nutritionist, found that coffee has health hazards. The common problems created by coffee are nervousness, heart problems and sleeplessness. It can aggravate peptic ulcer and other gastro intestinal disorders. People with hypertension, heart diseases and anaemia should avoid coffee.

*Alcohol should be avoided* as it may suck or absorb water from the body and dehydrate a person. That immediately starts affecting kidneys, besides causing constipation, headache, hypertension etc. Sufficient water should be taken to nullify the adverse effect of alcohol.

### **Soft drinks are dangerous**

Soft drinks are too dangerous. Soft drinks deplete the calcium of the body which is critical for bone formation. Therefore, teenagers should avoid soft drinks as this is period of bone formation. About 40 to 60% of peak bone mass gets built during these years. In fact, soft drinks doesn't possess any nutritive value as they contain artificial sweeteners. Apart from this, soft drinks also cause an increase in body weight in childhood which in adult age is responsible for diseases like diabetes, heart problems, arthritis and so on.

Water is the ultimate drink that help us to maintain a healthy life. One should opt for all fruits and vegetables that are full of water. Fruit juices are called 'cleansers' of the human body. They purify and detoxify the blood. To ensure complete health, a minimum of eight glasses of water should be consumed everyday. ■

(Head, Pharmacy Department, Kalaniketan Polytechnic College, Jabalpur, MP)



# Reappraisal of National Health Policy (1)

## *Need for comprehensive re-examination*

Prof Ashok K Roy

Our country was blessed with two excellently-documented, well-organized, well thought out and comprehensive Health Commission reports compiled under the leadership of late Dr Joseph Bhore and late Mudaliar. The first report was available at the time of Independence and the second one in the early fifties. Many of the issues raised in those reports are still valid. The main reason for ignoring those reports and not considering those issues in developing a Comprehensive National Health Policy are "Lack of Foresight and Political Will" of the ruling party and "Significant Dragging of Feet" by bureaucrats.

Constitutional experts were emphatic in declaring 'Health as a Basic Human Right' but our political parties, one after the other, totally failed to recognize its priority. Allocation of resources in successive Five-Year-Plans, and the process of selecting Union and State Health Ministers testify to the magnitude of neglect. There are innumerable evidences to prove 'Lack of Health Concern' amongst the top political leaders of the country. A very recent example. Provision of midday meal to the students of primary schools has been characterized as an expression of great social concern by almost all political parties of the country. But before starting such a programme, how many central and state government officials did make an organized effort

to find out how many schools had facilities to cook and serve such food in hygienic conditions? Cooking is often done in temporary improvised sheds in very unhygienic conditions, dining halls are non-existent, cooks and kitchen staff are totally untrained, there is very little or inadequate supply of potable water, drinking water facilities are non-existent, cooked food is stored in open vessels in the toilet and so on. How many cases of food poisoning have been reported during the last ten years? What actions have been taken so far to provide healthy wholesome food to the children to improve the nutritional status of the children? This is not to deny that some basic health indices have improved during the last 60 years. Let us analyze Vital Health Statistics.





## ANALYSIS OF DEMOGRAPHY AND VITAL STATISTICS

Population of our country (undivided India) in 1901 was 2384 lakhs; crude birth rate was 49.2 (per 1000 population), crude death rate (per 1000 population) was 42.8 and natural growth was 6.6. High death rate continued for two more decades and started declining at a faster rate from 1931; the downward decline became faster in 1961, decline in birth rate was relatively low which pushed up the natural growth rate. The natural growth rate remained in 20s till 1990, even after that rate of decline is low in high teens up to 1997. The population explosion which shattered the country's economy was caused by high birth rate and relatively low death rate.

### ● Population growth rate

It has come down from a high of 22.2 (1961 -71) to 1.4%. It compares adversely with Sri Lanka (0.77) and Thailand (0.78%). Among advanced countries, Japan is lowest (0.6%) and USA the highest (0.92%)

### ● Prime health indicators

	1911-15	2003
Infant Mortality	204	60

Compares adversely with Srilanka (14), Thailand (17), Brazil (24) in advanced countries like Japan, Canada, France, UK, USA all in single digit varying from 3 to 7.

### ● Expectation of life at birth

At the time of Independence, it was 27.5 years and the current rate 63.2 (male) and 66.7 (female), could be considered as significant progress. It adversely compares with Sri Lanka 72.6 (M), 77.9 (F); Thailand 68.2 (M), 75.0 (F).

Advanced countries are high seventies for male and above eighty for female.

### ● Socio-economic indicators

The gross national product (GNP) growth could not

Food distribution, though improved substantially, could not be made equitable enough to remove imbalances. Nutritional status of the children in general is not up to any standard, more particularly amongst the weaker sections of the community and in remote tribal areas.

keep pace with population growth for a long period of time, for that reason per capita income at constant price (1950 -51) was on the decline for a long period of time; current per capita income at 1993 - 94 price level is 12416, as the gap between high income group and low-income group is very wide, per capita income fails to represent the income of the majority.

### ● Nutritional status

Similar to GNP growth, production and distribution of food grains could not keep pace with population growth. Food distribution though improved substantially could not be made equitable enough to remove imbalances. Nutritional status of the children in general is not up to any standard, more particularly amongst the weaker sections of the community and in remote tribal areas.

Per capita per day net availability of cereals and pulses throws more light in this area. In 1951, it was 394.9

grams, which gradually reached the highest point in nineties 510.1 grams (1991) and 503.1 grams (1995), but it could not be sustained and started declining. In 2004, it was 463.3 grams. Production of pulses and oil seeds could not keep pace with demand. In spite of import, the price rise could not be checked. Protein - calorie malnutrition is high in the country, more particularly amongst children.



### ● Literacy rate

It has significantly improved in recent years but is calculated on the basis of very low level of reading ability and extremely low level of writing ability; as a result, the level of literary illumination is extremely low. There is a large number of semi-literate or so-called literate which results in various types of social problems and imbalances. The age-old proverb 'A little learning is a dangerous thing' has engulfed our society and the evil effects of 'semi-literacy' is going to be the epicentre of many social problems in the country.

### ● Health expenditure

Allocation of funds for both health and education (particularly, primary education) is abysmally poor. Both are in the core social service sector - real development and growth of a country is overly



dependent on it. This is the prime cause for very low 'Social Index' ranking (127) by an international body.

It can be considered as a major failure of national leaders, planners, and political parties — both at the centre and in the states. Failure of such nature and scale over an extended period of six decades can only happen due to pure lack of commitment and lack of political will. If we look at it from the viewpoint of social development and social change, such a situation is more likely to arise in a society where its leaders are more interested in their own, family's or party's name, fame, economic prosperity at the cost of social justice, equity and basic welfare of the people. The same causative factor — very narrow self-centered attitude — has also given rise to such a widespread corrupt practices at each and every segment of the society. The father of the nation late Mahatma Gandhi described 'Seven deadly sins' — the last one is 'Politics without principle'.

Allocation for health in the first five-year plan (1951 – 56) was 3.3%; second-plan 3.00%; third plan — 2.6%; fourth plan — 2.1%, from fifth-plan onwards it was pushed below 2% (1.9%, 1.8%, 1.7% respectively). Only in the ninth plan, a little upturn was noticed (2.9%) and in the tenth plan it was 2.09%.

The country's population went up from 3610.9 lakhs in 1951 to 10286.1 lakhs in 2001, i.e. an increase of 6675 lakhs. If the planned allocation is converted to per capita allocation at a constant price of 1950-51, it will be pittance.

Another anomaly lies in the urban-rural distribution of planned allocation. Here government hospitals, medical colleges as well as speciality hospitals are located in urban areas, as a result 70-75 per cent of allocated fund is spent for 25 to 30 per cent urban population.

In the early nineties, at a meeting with a senior member of the Planning Commission, I enquired about their per capita allocation of funds for health services. He could not answer. My suggestion was to make per capita allocation with a very strict embargo that funds allocated for rural population could not be siphoned back to urban centres.

We have to hang our heads in shame when we try to do international comparison.

## ● Central government outlay

	India	Sri Lanka	Thailand	Brazil	Canada	UK	USA
Education	2.4	7.69	22.80	6.14	2.13	3.73	2.64
Health	1.63	5.10	10.71	6.21	2.69	15.42	23.44
Social protection	-	12.25	11.60	47.26	46.57	36.50	32.03
Housing and community amenities	4.22	2.82	3.81	0.64	1.27	2.24	1.98

If in all kinds of financial analyses like GNP size and growth, import, export, balance of payment, productivity, foreign exchange reserve, we are much better off than Sri Lanka, Thailand, Brazil, then why is our fund allocation for health and education so poor? There is no allocation for social protection except for a few narrowly defined schemes which may not have perpetuity. Many such schemes is inequitable and managed with an interest of gaining political mileage.

## ● Per capita allocation on health, family welfare, water supply and sanitation.

1989-90

Rs.83.03 per year

India has one of the largest health care sectors in the world; every second citizen of the country approaches a private hospital for services and care. 75 to 85 per cent of total health care expenditure comes from people; government's contribution is lesser than 15%, one of the lowest in the world. Health expenditure as a share of GDP stands around 8%, government contribution is 2 to 2.5% including family planning, water supply and sanitation.

## ● Poverty

Percentage of population below poverty-line was hovering above 40% for a long time, lately in 1999-2000 it has come down to 26.10% (national). In Orissa, it is 47.15% and Bihar 42.60%.

## ● Disabled population

Disabled population in India 11,18,948 (1980) according to survey of disabled population.

	No. of disabled per lakh Population
Mental illness	105
Mental retardation	94
Low vision	77
Hearing disability	291
Speech disability	204
Loco motor disability	1008
Blindness	192

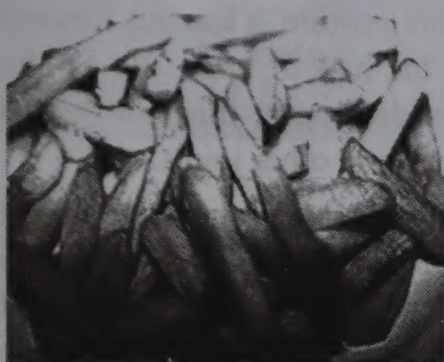
(Hospital Management Consultant, 'Bishwatara', No.8, Lake shore homes, Kasavanahalli PO, Carmelaram, Bangalore 560 035)



# HEALTH BITS

## Burnt foods linked to cancers

Women who eat crisps everyday may double their chances of ovarian or womb cancer, say scientists. The fears surround acrylamides, chemicals produced when you fry, grill or roast foods, reports news.bbc.co.uk



U K experts advise, resulting from this project, to avoid overcooking when baking, frying or toasting carbohydrate-rich foods.

Laboratory tests highlighted acrylamides as a possible danger five years ago, but the University of Maastricht study published in the 'Cancer Epidemiology, Biomarkers and Prevention,' is the first to find a link between acrylamides in the diet and cancer risk. Coloured or burnt food is more likely to contain acrylamides.

*Insight-The Consumer Magazine, November-December 2007*

## Saved by a straw



Kids love fizzy soft drinks. But these treats can play havoc with their teeth as the sugars and acids attack the enamel. The exact damage depends on how you drink; if you swig from the can, letting it pool at the back of your mouth, then your molars

get it; if you sip through your front teeth then they suffer.

Scientists have decided that the safest way to drink the stuff is through a straw into the back of the mouth, minimizing the length of time it's in contact with your teeth. It's also a good idea to rinse your mouth with water afterwards.

*Reader's Digest, January 2008*

## Diesel traffic makes asthma worse

Air pollution from diesel traffic can worsen lung function in people with asthma, a team of international researchers has been reported to have said to the New England Journal of Medicine.

Diesel engines can generate more 100 times more particles than petrol engines. The smaller the particle, the deeper it can be inhaled into the lungs and very small particles may even be absorbed into the bloodstream.

A respiratory medicine consultant at Royal Brompton Hospital, London, said, "The real message is not for individuals with asthma but for people who plan traffic and build engines."

*Insight-The Consumer Magazine, November-December 2007*

## Toad venom to treat cancer

Toads may some day be known for more than bulging eyes, warts and appetite for insects. Researchers have found that toad venom extract had some beneficial effect with no side-effects for patients suffering from liver, lung and pancreatic cancer.

The venom has been used in China for long to treat cancer. Researchers from M D Anderson Cancer Centre, Houston, and Fudan University in China say that studies and pre-clinical research have shown that toad venom extract can stop the growth of tumours, improve how the immune system functions, and alleviate pain and fatigue caused by chemotherapy drugs.

*The New Indian Express, 13 January, 2008*



## Tamarind seed turns turbid water clear

Tamarind seed kernel powder, discarded as agricultural waste, is an effective agent, instead of aluminium salt, to



# HEALTH BITS

make turbid municipal and industrial wastewater clear. It has been found that alum increases toxic metals and ions in treated water and could cause diseases like the Alzheimer's.

"Kernel powder, compared to alum, is non-toxic and biodegradable," says Sampa Chakrabarti, researcher at the department of chemical engineering of Calcutta University. "It is cost-effective compared to alum and other synthetic polymers as it is an agricultural waste and can be procured at a throwaway price," she says. The finding of the study will be published in a coming issue of Bioresource Technology.

*Insight-The Consumer Magazine, November-December 2007*

## Walk or Jog – and get fit

Done right, running or walking is the perfect exercise. It's convenient – you can do it anywhere, at any time – and it's cheap, since all you need is a good pair of shoes. It also provides a good cardiovascular, weight-bearing workout, so it helps to prevent osteoporosis and burns calories.



Here's how to get started: Shoes "A good shoe supports the foot as it absorbs three times your body weight during running," says an exercise physiologist at a UK University. Look for light-weight, breathable shoes with built-in cushioning. Running shoes have more shock-absorbent heels than walking shoes, which should allow your foot to move with a controlled, rolling motion from heel to toe.

Higher prices reflect new features, but the key is how well they fit your feet.

Polyester microfibre socks, designed to draw moisture away from the skin, help keep feet blister-free.

Walk or run on the softest, most even surfaces you

can find. A running track is best as it contains a shock-absorbent rubber-asphalt mix. Otherwise, an asphalt road is better than a hard, concrete pavement or uneven grass. Consistently running along slopes increases risk of injury.

Form adopt a comfortable posture – leaning forward from the ankles, not from the hips or back. Be careful not to overstretch your stride length, this can tighten hamstrings and stress knees and other joints.

Intensify if you can say two or three sentences without gasping for breath, you're in a good range, says a physiotherapist. How hard does your workout feel? If zero is what you'd feel sitting on the sofa and ten is when you're working so hard you can't breathe, aim for five.

Warm up and cool down: Always warm up by walking or jogging lightly for 5-10 minutes. Do the same in reverse after exercise, to relax and loosen up. Then stretch muscles while they are still warm, for 15-30 seconds each, repeating 2-3 times.

*Reader's Digest, January 2008*

## Have you forgotten how to remember?

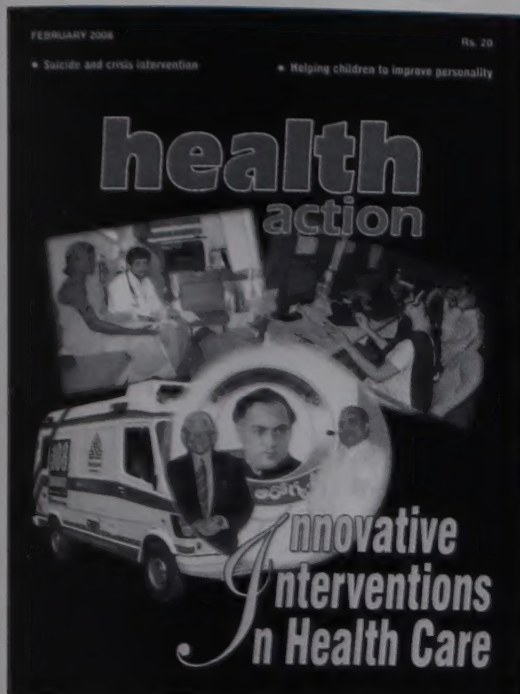
Suffering from chronic mid-life memory loss: forgetfulness, feeling vague and foggy, missing critical information – the names of people and places, the titles of books and films, losing self-confidence?

What causes forgetfulness and is it preventable? A leading American psychiatrist has given it a name -- ADT -- attention deficit trait. ADT is a form of frontal-lobe shutdown. The frontal lobes of the brain guide the organization and prioritization of information and ideas, decision-making and planning, time-management and other demanding tasks.

For those prone to stress, besides lifestyle changes involving learning to relax, the ultimate solution is to stop dwelling on what we lose with age and begin to relish what we gain.

*Insight-The Consumer Magazine, November-December 2007*





## Equipping with health knowledge

*Health Action* is really equipping the voluntary organizations with health knowledge which would enable them to attain their goal of providing health for all in their target areas.

*EVS Naidu, Nellore  
Andhra Pradesh*

### Really commendable

I am impressed by the contents of each issue of *Health Action*. Commendable work indeed!

*Leelamma Mathew  
Ahmedabad, Gujarat*

### Many people will benefit

The February issue of *Health Action* was very informative as it gave lots of information on Rajiv Aarogyasri Scheme which provides financial assistance to the families living below poverty line for the treatment of serious ailments.

The other articles that drew my attention are 'Helping children to improve personality' by Dr Sunny Chunkapura; 'Kangaroo Mother Care' by Dr Amar Taksande and Dr K Y Vilhekar; and 'Failure of the Existing National Anaemia Control Programme' by Dr Thirumani Devi. I am sure many people will benefit from such valuable information.

*Joy Joseph, Secunderabad  
Andhra Pradesh*

### Forthcoming themes — 2008

*(The order is subject to change)*

- Homeopathy
- Community Health Insurance
- Fighting HIV/AIDS through Community Health
- Right to Information Act and Health
- Impact of Information Technology on Health
- Review of NRHM
- Diabetes
- Urban Health Mission
- Adolescence and Health
- Private Public Partnerships (PPPs) and Health



# health action



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- promotes alternative systems of medicine and low-cost therapies

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